# 2009 Chevrolet TrailBlazer Owner Manual

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This manual includes the latest information at the time it was printed. GM reserves the right to make changes after that time without further notice. For vehicles first sold in Canada, substitute the name “General Motors of Canada Limited” for Chevrolet Motor Division wherever it appears in this manual.

This manual describes features that may or may not be on your specific vehicle.

Read this manual from beginning to end to learn about the vehicle’s features and controls. Pictures, symbols, and words work together to explain vehicle operation.

Keep this manual in the vehicle for quick reference.

Litho in U.S.A.
Part No. 25820780 A First Printing

# Canadian Owners

A French language copy of this manual can be obtained from your dealer/retailer or from:

Helm, Incorporated
P.O. Box 07130
Detroit, MI 48207

1-800-551-4123
helminc.com

## Propriétaires Canadiens

On peut obtenir un exemplaire de ce guide en français auprès de concessionnaire ou à l’adresse suivante:

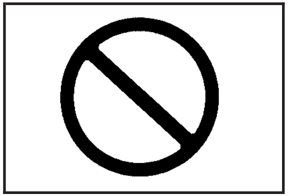
Helm Incorporated
P.O. Box 07130
Detroit, MI 48207

1-800-551-4123
helminc.com

# Index

To quickly locate information about the vehicle use the Index in the back of the manual. It is an alphabetical list of what is in the manual and the page number where it can be found.

# Safety Warnings and Symbols



A circle with a slash through it is a safety symbol which means "Do Not," "Do not do this" or "Do not let this happen."

A box with the word CAUTION is used to tell about things that could hurt you or others if you were to ignore the warning.

**CAUTION:**

These mean there is something that could hurt you or other people.

Cautions tell what the hazard is and what to do to avoid or reduce the hazard. Read these cautions.

A notice tells about something that can damage the vehicle.

***Notice:*** **These mean there is something that could damage your vehicle.**

Many times, this damage would not be covered by the vehicle's warranty, and it could be costly. The notice tells what to do to help avoid the damage.

There are also warning labels on the vehicle which use the same words, CAUTION or Notice.

# Vehicle Symbols

The vehicle has components and labels that use symbols instead of text. Symbols are shown along with the text describing the operation or information relating to a specific component, control, message, gage, or indicator.

: This symbol is shown when you need to see your owner manual for additional instructions or information.

: This symbol is shown when you need to see a service manual for additional instructions or information.

## Vehicle Symbol Chart

Here are some additional symbols that may be found on the vehicle and what they mean. For more information on the symbol, refer to the index.

: Adjustable Pedals

: Airbag Readiness Light

: Air Conditioning

: Antilock Brake System (ABS)

: Audio Steering Wheel Controls or OnStar®

: Brake System Warning Light

: Charging System

: Cruise Control

: Engine Coolant Temperature

: Exterior Lamps

: Fog Lamps

: Fuel Gage

: Fuses

: Headlamp High/Low-Beam Changer

: LATCH System Child Restraints

: Malfunction Indicator Lamp

: Oil Pressure

: Power

: Remote Vehicle Start

: Safety Belt Reminders

: Tire Pressure Monitor

: Traction Control

: Windshield Washer Fluid

# Section 1 Seats and Restraint System

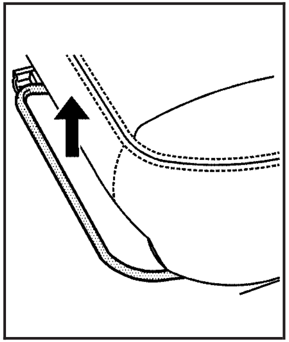
# Front Seats

## Manual Seats

**⚠ CAUTION:**

You can lose control of the vehicle if you try to adjust a manual driver's seat while the vehicle is moving. The sudden movement could startle and confuse you, or make you push a pedal when you do not want to. Adjust the driver's seat only when the vehicle is not moving.

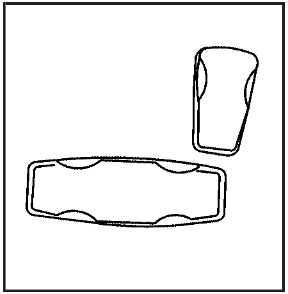
If the vehicle has a manual seat, it can be moved forward or rearward.



1. Lift the bar to unlock the seat.
2. Slide the seat to the desired position and release the bar.

Try to move the seat with your body to be sure the seat is locked in place.

## Power Seats



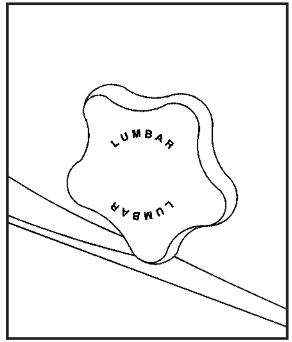
On vehicles with power seats, the controls used to operate them are located on the outboard side of the seats.

To adjust the seat:

- Move the seat forward or rearward using the horizontal control.
- Raise or lower the front of the seat cushion using the front of the horizontal control.
- Raise or lower the rear of the seat cushion using the rear of the horizontal control.
- Raise or lower the entire seat using the entire horizontal control.

For seats with power reclining seatbacks, see "Power Reclining Seatbacks" under *Reclining Seatbacks on page 1-7*.

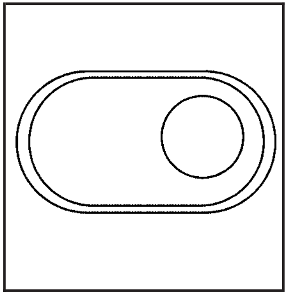
## Manual Lumbar




On vehicles with this feature, the knob is located on the outboard side of the driver seat.

Turn the knob to increase or decrease lumbar support.

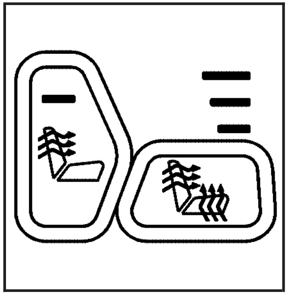
## Power Lumbar



On vehicles with power lumbar, the control is located on the outboard side of the seat.

To increase or decrease support, hold the control forward or rearward.

## Heated Seats



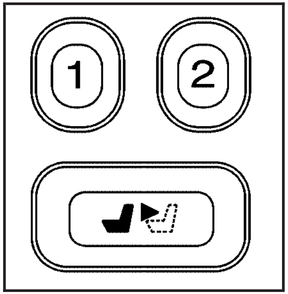
Your vehicle may have heated front seats. The buttons used to control this feature are located on the front door armrests. The engine must be running for the heated seat feature to work.

To heat the entire seat, press the horizontal button with the heated seat and seatback symbol. Press the button to cycle through the temperature settings of high, medium, and low and to turn the heated seat off. The indicator lights above the button will come on to designate the level of heat selected: three for high, two for medium, and one for low. The low setting warms the seatback and seat cushion until the seat temperature is near body temperature. The medium and high settings heat the seatback and seat cushion to a slightly higher temperature. You will be able to feel heat in about two minutes.

To heat only the seatback, press the vertical button with the heated seatback symbol. An indicator light on the button will come on to designate that only the seatback is being heated. Additional presses will cycle through the heat levels for the seatback only.

The feature will shut off automatically when the ignition is turned off.

## Memory Seat




If your vehicle has this feature, the controls for the memory function are located on the driver door.

These buttons are used to program and recall memory settings for the driver's seating position and the adjustable pedals, if equipped. The settings for these features can be saved for up to two drivers.

To store the memory settings:

1. Adjust the driver's seat, including the seatback recliner and lumbar and the adjustable pedals, if equipped, to the desired position.

   See *Adjustable Throttle and Brake Pedal on page 2-24* for more information.
2. Press and hold the 1 or 2 button of the memory control for three seconds. A double chime will sound to let you know that the position has been stored.

To repeat the procedure for a second driver, follow the preceding steps, but press the other numbered memory control button.

To recall the memory settings, do one of the following:

- Press and release button 1 or 2 while the vehicle is in (P) Park. A single chime will sound and the memory position will be recalled.
- If programmed to do so through the Driver Information Center (DIC), pressing the unlock button on the remote keyless entry transmitter will recall the preset driver's memory seat and adjustable pedals position. The numbers on the back of the transmitters, 1 or 2, correspond to the numbers on the memory controls.
- If programmed to do so through the DIC, placing the key in the ignition will recall the driver's memory seat and adjustable pedals positions.

See “Seat Recall” under *DIC Vehicle Customization on page 3-56* for more information.

To stop recall movement of the memory seat feature at any time, press one of the memory buttons or power seat controls.

## Easy Exit Seat

The control for the easy exit seat function is located on the driver’s door below the memory buttons 1 and 2. The easy exit seat button is used to program and recall the desired driver’s seat position when exiting or entering the vehicle. The power lumbar, recline, and adjustable pedals, if equipped, positions will not be stored or recalled when using the easy exit seat function. The seat position can be saved for up to two drivers.

To store the easy exit seat position:

1. Press and release the 1 or 2 button of the memory control for less than three seconds. The seat will move to the stored memory position.
2. Adjust the seat to the desired exit position.
3. Press and hold the easy exit seat button for more than three seconds. A double chime will sound to let you know that the position has been stored for the selected button 1 or 2.

To repeat the procedure for a second driver, follow the preceding steps, but press the other numbered memory control button.

To recall the easy exit seat position:

- Press the easy exit seat button on the memory control while the vehicle is in (P) Park. The seat will move to the stored exit position.
- Or, if the easy exit seat feature is activated in the Driver Information Center (DIC), removing the key from the ignition will move the seat to the exit position. See “Easy Exit Seat” under *DIC Vehicle Customization on page 3-56* for more information on activating this feature in the DIC.

If an easy exit seat position has not been stored, the default position is all the way rearward.

## Reclining Seatbacks

### Manual Reclining Seatbacks

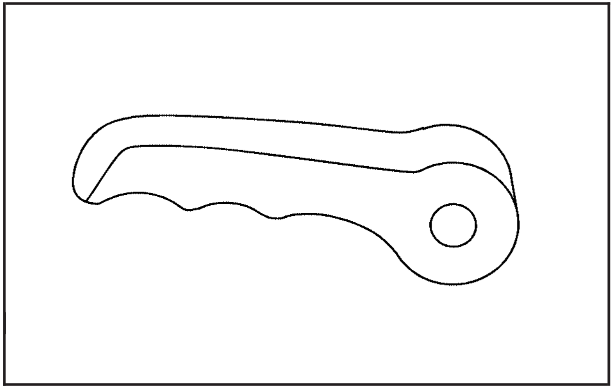
**⚠ CAUTION:**

You can lose control of the vehicle if you try to adjust a manual driver's seat while the vehicle is moving. The sudden movement could startle and confuse you, or make you push a pedal when you do not want to. Adjust the driver's seat only when the vehicle is not moving.

**⚠ CAUTION:**

If either seatback is not locked, it could move forward in a sudden stop or crash. That could cause injury to the person sitting there. Always push and pull on the seatbacks to be sure they are locked.

If the seats have manual reclining seatbacks, the lever used to operate them is located on the outboard side of the seat(s).



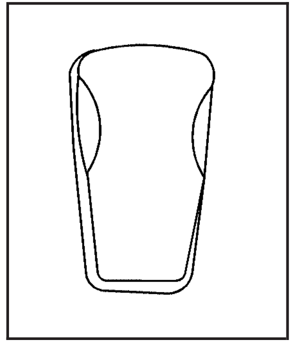
To recline the seatback, do the following:

1. Lift the recline lever.
2. Move the seatback to the desired position, then release the lever to lock the seatback in place.
3. Push and pull on the seatback to make sure it is locked.

To return the seatback to an upright position, do the following:

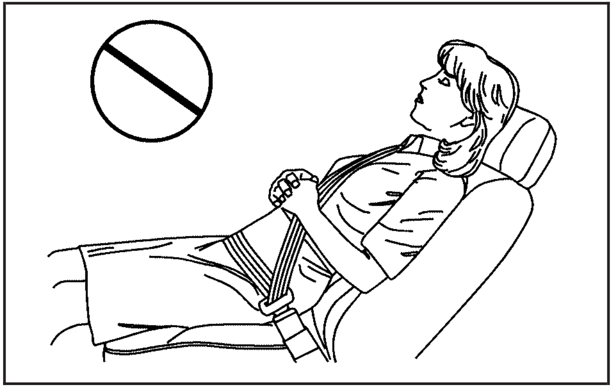
1. Lift the lever fully without applying pressure to the seatback and the seatback will return to the upright position.
2. Push and pull on the seatback to make sure it is locked.

## Power Reclining Seatbacks



If your seats have power reclining seatbacks, use the vertical power seat control located on the outboard side of the seat(s).

- To recline the seatback, press the control toward the rear of the vehicle.
- To raise the seatback, press the control toward the front of the vehicle.



## ⚠ CAUTION:

Sitting in a reclined position when your vehicle is in motion can be dangerous. Even if you buckle up, your safety belts cannot do their job when you are reclined like this.

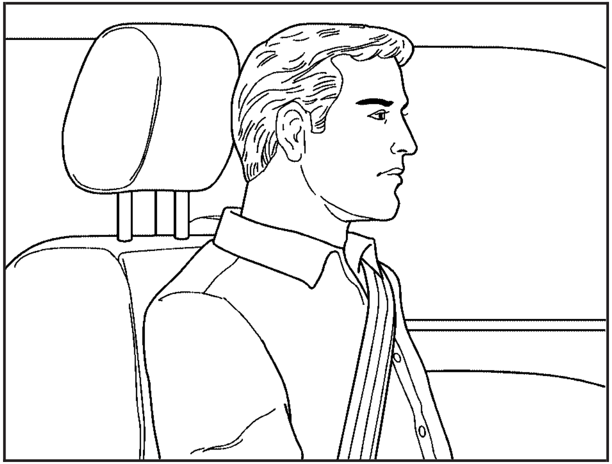
The shoulder belt cannot do its job. In a crash, you could go into it, receiving neck or other injuries.

The lap belt cannot do its job either. In a crash the belt could go up over your abdomen. The belt forces would be there, not at your pelvic bones. This could cause serious internal injuries.

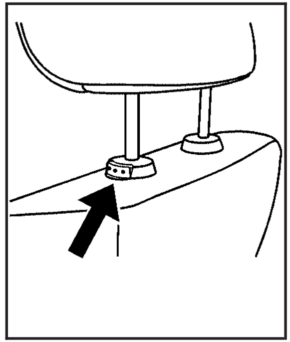
For proper protection when the vehicle is in motion, have the seatback upright. Then sit well back in the seat and wear your safety belt properly.

Do not have a seatback reclined if your vehicle is moving.

## Head Restraints



Adjust the head restraint so that the top of the restraint is at the same height as the top of the occupant's head. This position reduces the chance of a neck injury in a crash.



Pull the head restraint up to raise it.

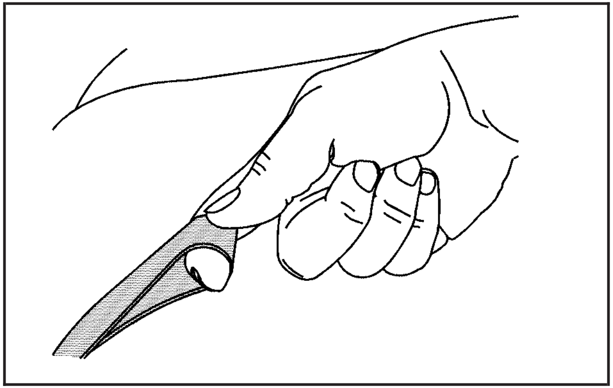
To lower the head restraint, press the button, located on the top of the seatback, and push the head restraint down.

# Rear Seats

## Rear Seat Operation

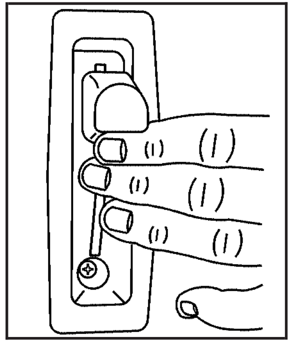
Your vehicle has flip and fold second row seats which provide additional cargo space.

To flip and fold the seat(s), do the following:



1. Pull up on the loop located where the seat cushion meets the seatback and flip the seat cushion forward.

***Notice:*** **Folding a rear seat with the safety belts still fastened may cause damage to the seat or the safety belts. Always unbuckle the safety belts and return them to their normal stowed position before folding a rear seat.**



2. Lift the lever, located on the outboard side of the seatback, and fold the seatback forward.

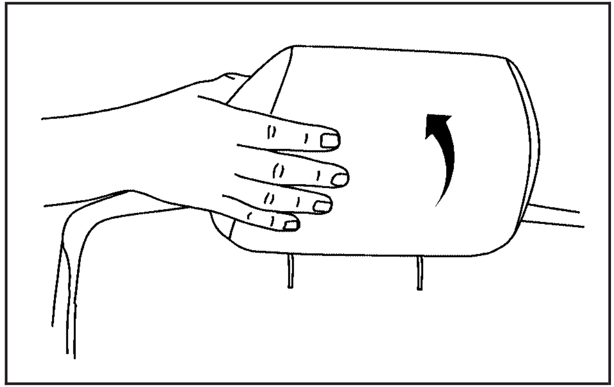
The head restraint will automatically fold out of the way as the seatback is folded down.

To return the seat(s) to the original position, do the following:

**⚠ CAUTION:**

If either seatback is not locked, it could move forward in a sudden stop or crash. That could cause injury to the person sitting there. Always push and pull on the seatbacks to be sure they are locked.

1. Lift the seatback until it locks into the upright position. Push and pull on the seatback to make sure it is locked.



2. Return the head restraints to the upright position by reaching behind the seat and pulling it forward until it locks into place. Push and pull on the head restraint to make sure that it is locked.
3. Flip the seat cushion back into place.

# Safety Belts

## Safety Belts: They Are for Everyone

This section of the manual describes how to use safety belts properly. It also describes some things not to do with safety belts.

**⚠ CAUTION:**

Do not let anyone ride where a safety belt cannot be worn properly. In a crash, if you or your passenger(s) are not wearing safety belts, the injuries can be much worse. You can hit things inside the vehicle harder or be ejected from the vehicle. You and your passenger(s) can be seriously injured or killed. In the same crash, you might not be, if you are buckled up. Always fasten your safety belt, and check that your passenger(s) are restrained properly too.

**⚠ CAUTION:**

It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a collision, people riding in these areas are more likely to be seriously injured or killed. Do not allow people to ride in any area of your vehicle that is not equipped with seats and safety belts. Be sure everyone in your vehicle is in a seat and using a safety belt properly.

This vehicle has indicators as a reminder to buckle the safety belts. See *Safety Belt Reminders on page 3-31* for additional information.

In most states and in all Canadian provinces, the law requires wearing safety belts. Here is why:

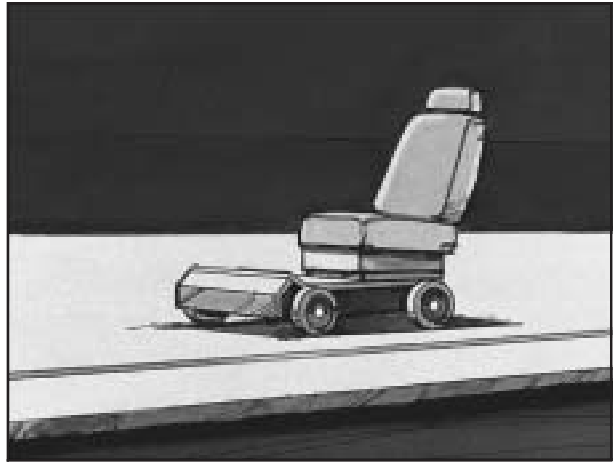
You never know if you will be in a crash. If you do have a crash, you do not know if it will be a serious one.

A few crashes are mild, and some crashes can be so serious that even buckled up, a person would not survive. But most crashes are in between. In many of them, people who buckle up can survive and sometimes walk away. Without safety belts, they could have been badly hurt or killed.

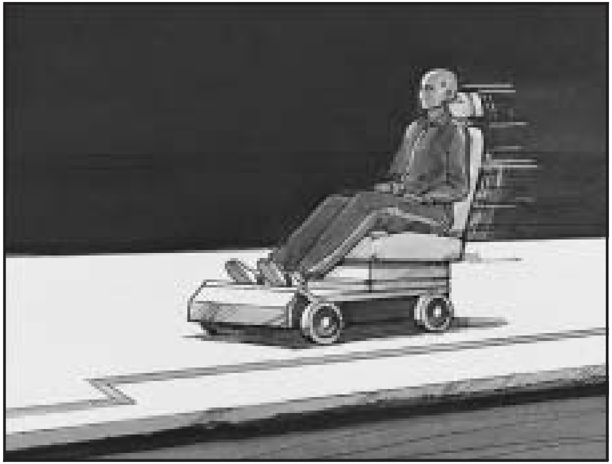
After more than 40 years of safety belts in vehicles, the facts are clear. In most crashes buckling up does matter... a lot!

## Why Safety Belts Work

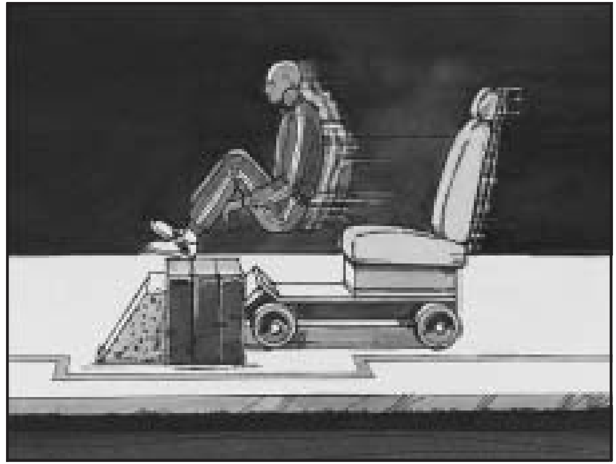
When you ride in or on anything, you go as fast as it goes.



Take the simplest vehicle. Suppose it is just a seat on wheels.

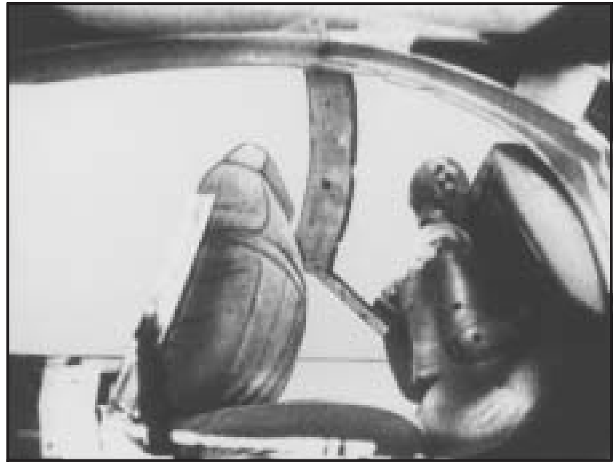


Put someone on it.



Get it up to speed. Then stop the vehicle. The rider does not stop.

The person keeps going until stopped by something. In a real vehicle, it could be the windshield...



or the instrument panel...

or the safety belts!

With safety belts, you slow down as the vehicle does. You get more time to stop. You stop over more distance, and your strongest bones take the forces. That is why safety belts make such good sense.

## Questions and Answers About Safety Belts

**Q: Will I be trapped in the vehicle after a crash if I am wearing a safety belt?**

**A:** You *could* be — whether you are wearing a safety belt or not. But your chance of being conscious during and after an accident, so you *can* unbuckle and get out, is *much* greater if you are belted. And you can unbuckle a safety belt, even if you are upside down.

**Q: If my vehicle has airbags, why should I have to wear safety belts?**

**A:** Airbags are supplemental systems only; so they work *with* safety belts — not instead of them. Whether or not an airbag is provided, all occupants still have to buckle up to get the most protection. That is true not only in frontal collisions, but especially in side and other collisions.

**Q: If I am a good driver, and I never drive far from home, why should I wear safety belts?**

**A:** You may be an excellent driver, but if you are in a crash — even one that is not your fault — you and your passenger(s) can be hurt. Being a good driver does not protect you from things beyond your control, such as bad drivers.

Most accidents occur within 25 miles (40 km) of home. And the greatest number of serious injuries and deaths occur at speeds of less than 40 mph (65 km/h).

Safety belts are for everyone.

## How to Wear Safety Belts Properly

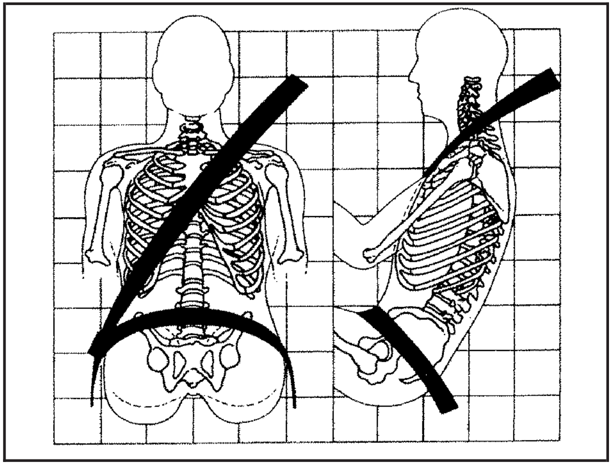
This section is only for people of adult size.

Be aware that there are special things to know about safety belts and children. And there are different rules for smaller children and infants. If a child will be riding in the vehicle, see *Older Children on page 1-32* or *Infants and Young Children on page 1-35*. Follow those rules for everyone's protection.

It is very important for all occupants to buckle up. Statistics show that unbelted people are hurt more often in crashes than those who are wearing safety belts.

Occupants who are not buckled up can be thrown out of the vehicle in a crash. And they can strike others in the vehicle who are wearing safety belts.

First, before you or your passenger(s) wear a safety belt, there is important information you should know.

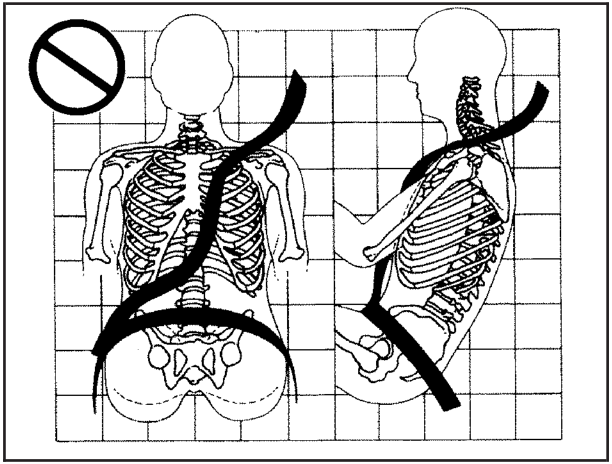


Sit up straight and always keep your feet on the floor in front of you. The lap part of the belt should be worn low and snug on the hips, just touching the thighs.

In a crash, this applies force to the strong pelvic bones and you would be less likely to slide under the lap belt. If you slid under it, the belt would apply force on your abdomen. This could cause serious or even fatal injuries. The shoulder belt should go over the shoulder and across the chest. These parts of the body are best able to take belt restraining forces.

The shoulder belt locks if there is a sudden stop or crash.

**Q:** **What is wrong with this?**

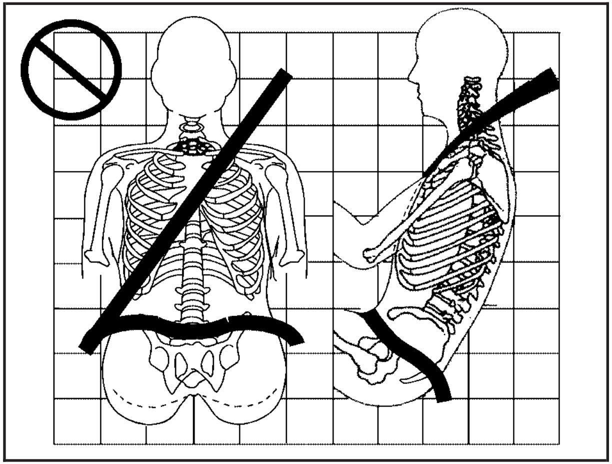


**A:** The shoulder belt is too loose. It will not give as much protection this way.

## ⚠ CAUTION:

You can be seriously hurt if your shoulder belt is too loose. In a crash, you would move forward too much, which could increase injury. The shoulder belt should fit snugly against your body.

**Q: What is wrong with this?**

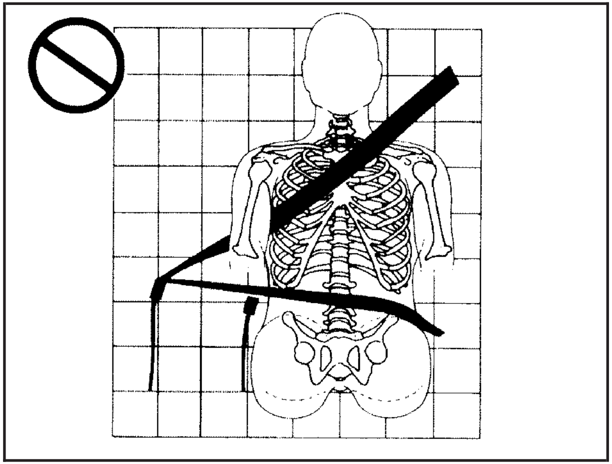


**A:** The lap belt is too loose. It will not give nearly as much protection this way.

## ⚠ CAUTION:

You can be seriously hurt if your lap belt is too loose. In a crash, you could slide under the lap belt and apply force on your abdomen. This could cause serious or even fatal injuries. The lap belt should be worn low and snug on the hips, just touching the thighs.

**Q:** **What is wrong with this?**

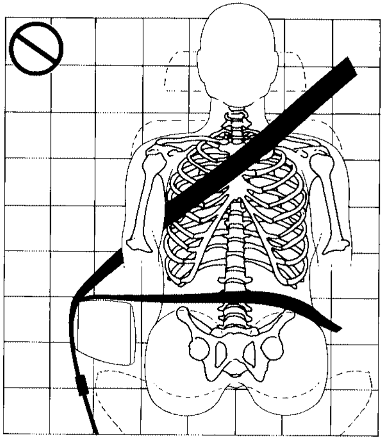


**A:** The belt is buckled in the wrong buckle.

### ⚠ CAUTION:

You can be seriously injured if your belt is buckled in the wrong place like this. In a crash, the belt would go up over your abdomen. The belt forces would be there, not on the pelvic bones. This could cause serious internal injuries. Always buckle your belt into the buckle nearest you.

**Q: What is wrong with this?**

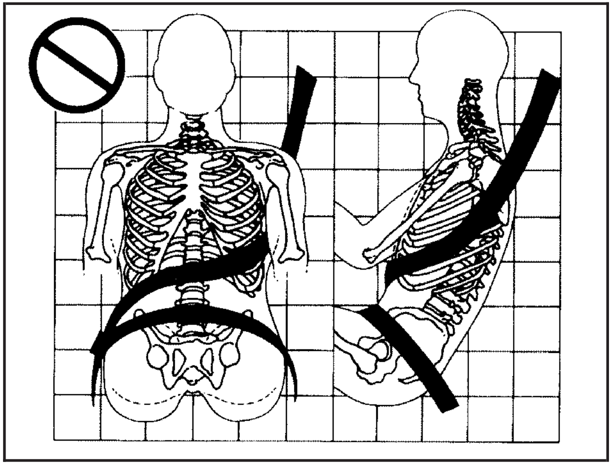


**A:** The belt is over an armrest.

## ⚠ CAUTION:

You can be seriously injured if your belt goes over an armrest like this. The belt would be much too high. In a crash, you can slide under the belt. The belt force would then be applied on the abdomen, not on the pelvic bones, and that could cause serious or fatal injuries. Be sure the belt goes under the armrests.

**Q:** **What is wrong with this?**

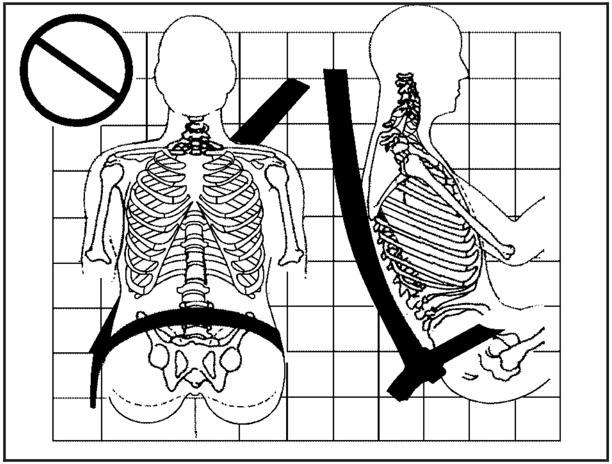


**A:** The shoulder belt is worn under the arm. It should be worn over the shoulder at all times.

**⚠ CAUTION:**

You can be seriously injured if you wear the shoulder belt under your arm. In a crash, your body would move too far forward, which would increase the chance of head and neck injury. Also, the belt would apply too much force to the ribs, which are not as strong as shoulder bones. You could also severely injure internal organs like your liver or spleen. The shoulder belt should go over the shoulder and across the chest.

**Q: What is wrong with this?**

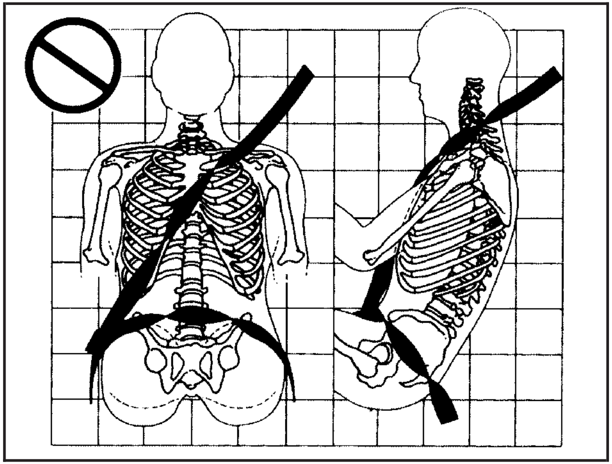


**A:** The belt is behind the body.

## ⚠ CAUTION:

You can be seriously injured by not wearing the lap-shoulder belt properly. In a crash, you would not be restrained by the shoulder belt. Your body could move too far forward increasing the chance of head and neck injury. You might also slide under the lap belt. The belt force would then be applied right on the abdomen. That could cause serious or fatal injuries. The shoulder belt should go over the shoulder and across the chest.

**Q: What is wrong with this?**



**A:** The belt is twisted across the body.

## ⚠ CAUTION:

You can be seriously injured by a twisted belt. In a crash, you would not have the full width of the belt to spread impact forces. If a belt is twisted, make it straight so it can work properly, or ask your dealer/retailer to fix it.

# Lap-Shoulder Belt

All seating positions in the vehicle have a lap-shoulder belt.

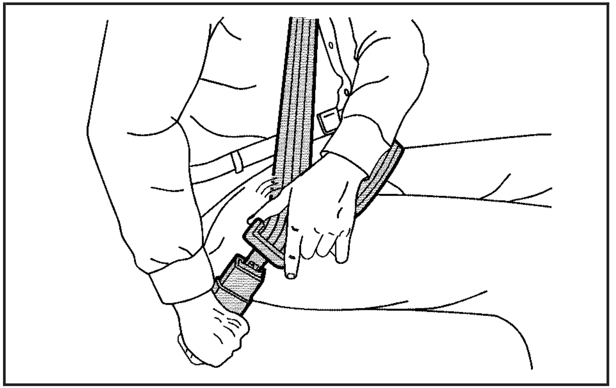
The following instructions explain how to wear a lap-shoulder belt properly.

1. Adjust the seat, if the seat is adjustable, so you can sit up straight. To see how, see “Seats” in the Index.
2. Pick up the latch plate and pull the belt across you. Do not let it get twisted.

   The lap-shoulder belt may lock if you pull the belt across you very quickly. If this happens, let the belt go back slightly to unlock it. Then pull the belt across you more slowly.

   If you ever pull the shoulder portion of a passenger belt out all the way, the child restraint locking feature may be engaged. If this happens, let the belt go back all the way and start again.

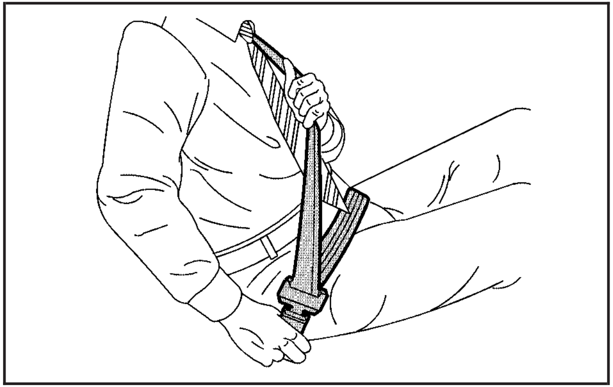
   Engaging the child restraint locking feature in the right front seating position may affect the passenger sensing system. See *Passenger Sensing System on page 1-63* for more information.



3. Push the latch plate into the buckle until it clicks.

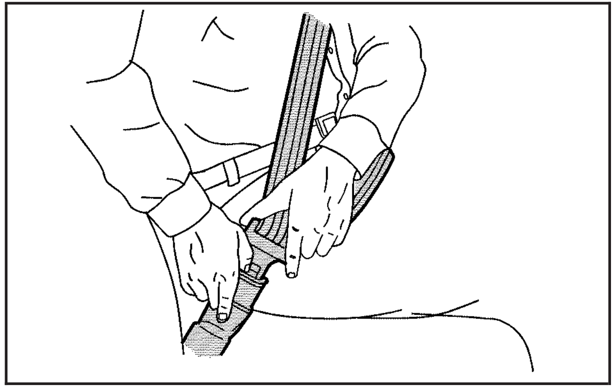
   Pull up on the latch plate to make sure it is secure. If the belt is not long enough, see *Safety Belt Extender on page 1-32*.

   Position the release button on the buckle so that the safety belt could be quickly unbuckled if necessary.



4. To make the lap part tight, pull up on the shoulder belt.

   It may be necessary to pull stitching on the safety belt through the latch plate to fully tighten the lap belt on smaller occupants.



To unlatch the belt, push the button on the buckle. The belt should return to its stowed position.

Before a door is closed, be sure the safety belt is out of the way. If a door is slammed against a safety belt, damage can occur to both the belt and the vehicle.

## Safety Belt Pretensioners

This vehicle has safety belt pretensioners for the front outboard occupants. Although the safety belt pretensioners cannot be seen, they are part of the safety belt assembly. They can help tighten the safety belts during the early stages of a moderate to severe frontal or near frontal crash if the threshold conditions for pretensioner activation are met. And, if your vehicle has side impact airbags, safety belt pretensioners can help tighten the safety belts in a side crash or a rollover event.

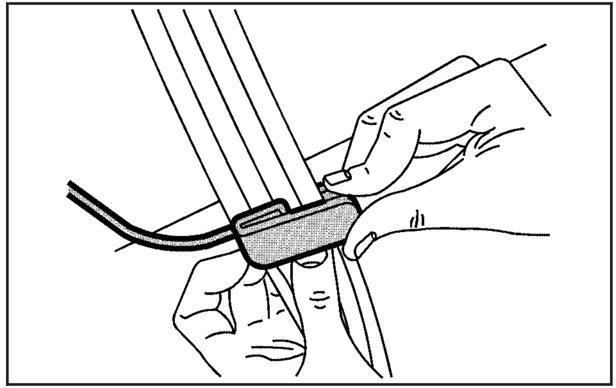
Pretensioners work only once. If the pretensioners activate in a crash, they will need to be replaced, and probably other new parts for the vehicle's safety belt system. See *Replacing Restraint System Parts After a Crash on page 1-71*.

## Rear Safety Belt Comfort Guides

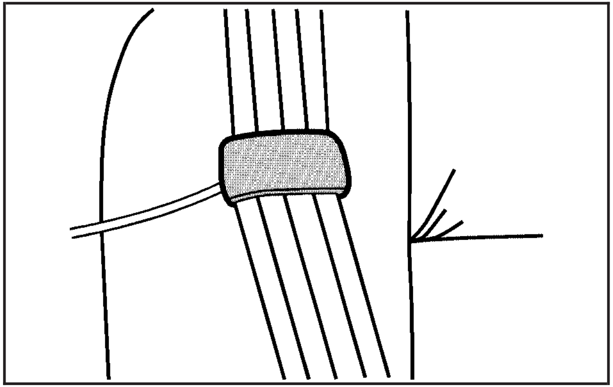
Rear shoulder belt comfort guides may provide added safety belt comfort for older children who have outgrown booster seats and for some adults. When installed on a shoulder belt, the comfort guide positions the belt away from the neck and head.

There is one guide for each outside passenger position in the rear seat. Here is how to install the comfort guide to the shoulder belt:

1. Slide the guide off of its storage clip located between the interior body and the seatback or from the storage pocket on the side of the seat.



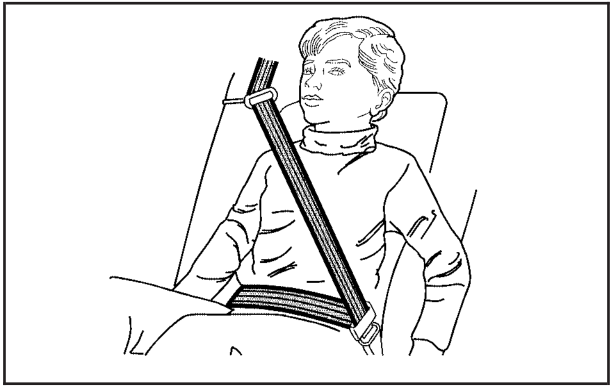
2. Place the guide over the belt and insert the two edges of the belt into the slots of the guide.



3. Be sure that the belt is not twisted and it lies flat. The elastic cord must be under the belt and the guide on top.

**⚠ CAUTION:**

A safety belt that is not properly worn may not provide the protection needed in a crash. The person wearing the belt could be seriously injured. The shoulder belt should go over the shoulder and across the chest. These parts of the body are best able to take belt restraining forces.

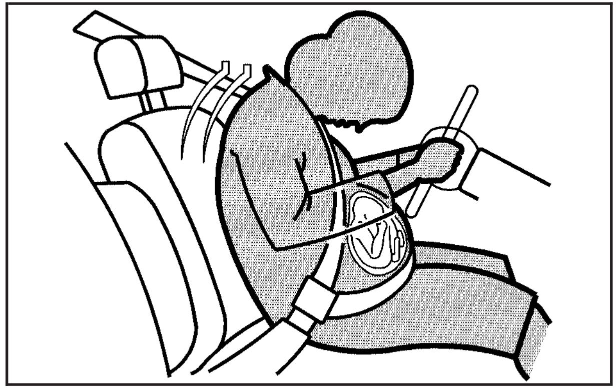


4. Buckle, position, and release the safety belt as described previously in this section. Make sure that the shoulder belt crosses the shoulder.

To remove and store the comfort guide, squeeze the belt edges together so that the safety belt can be removed from the guide. Slide the guide back onto its storage clip located between the interior body and the seatback or into the storage pocket on the side of the seat.

## Safety Belt Use During Pregnancy

Safety belts work for everyone, including pregnant women. Like all occupants, they are more likely to be seriously injured if they do not wear safety belts.



A pregnant woman should wear a lap-shoulder belt, and the lap portion should be worn as low as possible, below the rounding, throughout the pregnancy.

The best way to protect the fetus is to protect the mother. When a safety belt is worn properly, it is more likely that the fetus will not be hurt in a crash. For pregnant women, as for anyone, the key to making safety belts effective is wearing them properly.

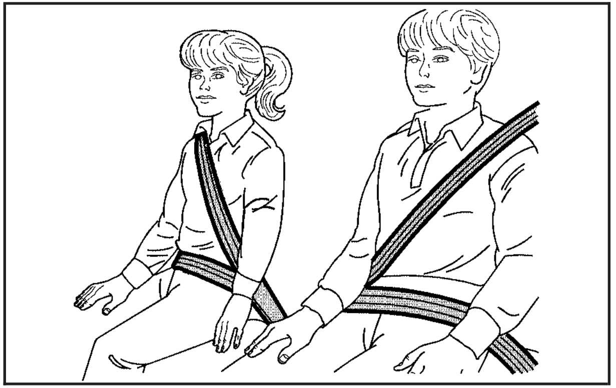
## Safety Belt Extender

If the safety belt will fasten around you, you should use it.

But if a safety belt is not long enough, your dealer/retailer will order you an extender. When you go in to order it, take the heaviest coat you will wear, so the extender will be long enough for you. To help avoid personal injury, do not let someone else use it, and use it only for the seat it is made to fit. The extender has been designed for adults. Never use it for securing child seats. To wear it, attach it to the regular safety belt. For more information, see the instruction sheet that comes with the extender.

# Child Restraints

## Older Children



Older children who have outgrown booster seats should wear the vehicle’s safety belts.

The manufacturer's instructions that come with the booster seat state the weight and height limitations for that booster. Use a booster seat with a lap-shoulder belt until the child passes the below fit test:

- Sit all the way back on the seat. Do the knees bend at the seat edge? If yes, continue. If no, return to the booster seat.
- Buckle the lap-shoulder belt. Does the shoulder belt rest on the shoulder? If yes, continue. If no, try using the rear safety belt comfort guide. See "Rear Safety Belt Comfort Guides" under *Lap-Shoulder Belt on page 1-27* for more information. If the shoulder belt still does not rest on the shoulder, then return to the booster seat.
- Does the lap belt fit low and snug on the hips, touching the thighs? If yes, continue. If no, return to the booster seat.
- Can proper safety belt fit be maintained for the length of the trip? If yes, continue. If no, return to the booster seat.
- If you have the choice, a child should sit in a position with a lap-shoulder belt and get the additional restraint a shoulder belt can provide.

**Q: What is the proper way to wear safety belts?**

**A:** An older child should wear a lap-shoulder belt and get the additional restraint a shoulder belt can provide. The shoulder belt should not cross the face or neck. The lap belt should fit snugly below the hips, just touching the top of the thighs. This applies belt force to the child's pelvic bones in a crash. It should never be worn over the abdomen, which could cause severe or even fatal internal injuries in a crash.

Also see "Rear Safety Belt Comfort Guides" under *Lap-Shoulder Belt on page 1-27*.

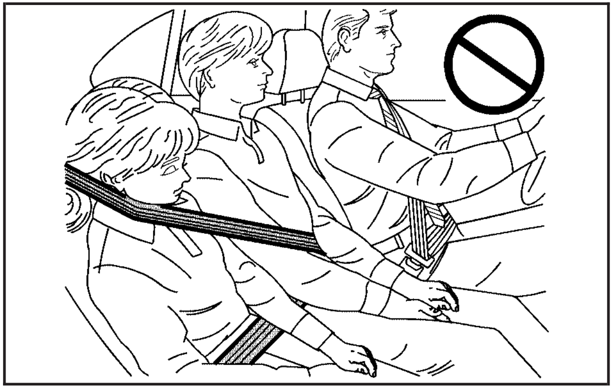
According to accident statistics, children and infants are safer when properly restrained in a child restraint system or infant restraint system secured in a rear seating position.

In a crash, children who are not buckled up can strike other people who are buckled up, or can be thrown out of the vehicle. Older children need to use safety belts properly.

### ⚠ CAUTION:

Never do this.

Never allow two children to wear the same safety belt. The safety belt can not properly spread the impact forces. In a crash, the two children can be crushed together and seriously injured. A safety belt must be used by only one person at a time.



### ⚠ CAUTION:

Never do this.

Never allow a child to wear the safety belt with the shoulder belt behind their back. A child can be seriously injured by not wearing the lap-shoulder belt properly. In a crash, the child would not be restrained by the shoulder belt. The child could move too far forward increasing the chance of head and neck injury. The child might also slide under the lap belt. The belt force would then be applied right on the abdomen. That could cause serious or fatal injuries. The shoulder belt should go over the shoulder and across the chest.

## Infants and Young Children

Everyone in a vehicle needs protection! This includes infants and all other children. Neither the distance traveled nor the age and size of the traveler changes the need, for everyone, to use safety restraints. In fact, the law in every state in the United States and in every Canadian province says children up to some age must be restrained while in a vehicle.

**⚠ CAUTION:**

Children can be seriously injured or strangled if a shoulder belt is wrapped around their neck and the safety belt continues to tighten. Never leave children unattended in a vehicle and never allow children to play with the safety belts.

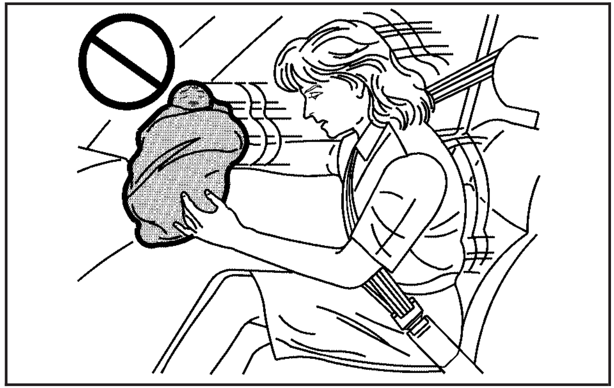
Airbags plus lap-shoulder belts offer protection for adults and older children, but not for young children and infants. Neither the vehicle's safety belt system nor its airbag system is designed for them. Every time infants and young children ride in vehicles, they should have the protection provided by appropriate child restraints.

Children who are not restrained properly can strike other people, or can be thrown out of the vehicle.

## ⚠ CAUTION:

Never do this.

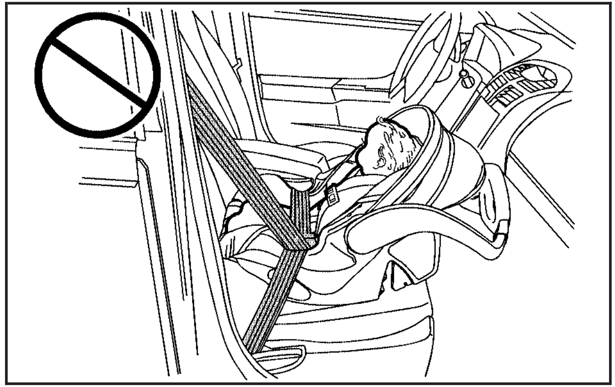
Never hold an infant or a child while riding in a vehicle. Due to crash forces, an infant or a child will become so heavy it is not possible to hold it during a crash. For example, in a crash at only 25 mph (40 km/h), a 12 lb (5.5 kg) infant will suddenly become a 240 lb (110 kg) force on a person's arms. An infant should be secured in an appropriate restraint.



## ⚠ CAUTION:

Never do this.

Children who are up against, or very close to, any airbag when it inflates can be seriously injured or killed. Never put a rear-facing child restraint in the right front seat. Secure a rear-facing child restraint in a rear seat. It is also better to secure a forward-facing child restraint in a rear seat. If you must secure a forward-facing child restraint in the right front seat, always move the front passenger seat as far back as it will go.



**Q: What are the different types of add-on child restraints?**

**A:** Add-on child restraints, which are purchased by the vehicle's owner, are available in four basic types. Selection of a particular restraint should take into consideration not only the child's weight, height, and age but also whether or not the restraint will be compatible with the motor vehicle in which it will be used.

For most basic types of child restraints, there are many different models available. When purchasing a child restraint, be sure it is designed to be used in a motor vehicle. If it is, the restraint will have a label saying that it meets federal motor vehicle safety standards.

The restraint manufacturer's instructions that come with the restraint state the weight and height limitations for a particular child restraint. In addition, there are many kinds of restraints available for children with special needs.

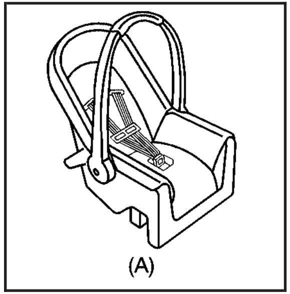
**⚠ CAUTION:**

To reduce the risk of neck and head injury during a crash, infants need complete support. This is because an infant's neck is not fully developed and its head weighs so much compared with the rest of its body. In a crash, an infant in a rear-facing child restraint settles into the restraint, so the crash forces can be distributed across the strongest part of an infant's body, the back and shoulders. Infants should always be secured in rear-facing child restraints.

## ⚠ CAUTION:

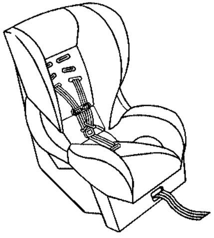
A young child's hip bones are still so small that the vehicle's regular safety belt may not remain low on the hip bones, as it should. Instead, it may settle up around the child's abdomen. In a crash, the belt would apply force on a body area that is unprotected by any bony structure. This alone could cause serious or fatal injuries. To reduce the risk of serious or fatal injuries during a crash, young children should always be secured in appropriate child restraints.

# Child Restraint Systems

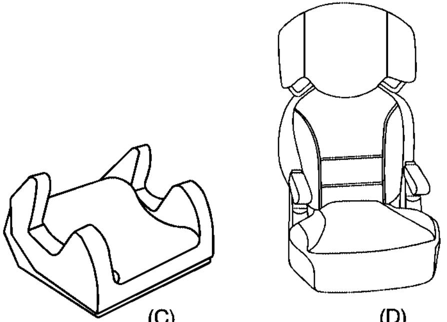



A rear-facing infant seat (A) provides restraint with the seating surface against the back of the infant.

The harness system holds the infant in place and, in a crash, acts to keep the infant positioned in the restraint.


(B)

A forward-facing child seat (B) provides restraint for the child's body with the harness.


(C) (D)

A booster seat (C-D) is a child restraint designed to improve the fit of the vehicle's safety belt system. A booster seat can also help a child to see out the window.

## Securing an Add-On Child Restraint in the Vehicle

**⚠ CAUTION:**

A child can be seriously injured or killed in a crash if the child restraint is not properly secured in the vehicle. Secure the child restraint properly in the vehicle using the vehicle's safety belt or LATCH system, following the instructions that came with that child restraint and the instructions in this manual.

To help reduce the chance of injury, the child restraint must be secured in the vehicle. Child restraint systems must be secured in vehicle seats by lap belts or the lap belt portion of a lap-shoulder belt, or by the LATCH system. See *Lower Anchors and Tethers for Children (LATCH) on page 1-43* for more information. A child can be endangered in a crash if the child restraint is not properly secured in the vehicle.

When securing an add-on child restraint, refer to the instructions that come with the restraint which may be on the restraint itself or in a booklet, or both, and to this manual. The child restraint instructions are important, so if they are not available, obtain a replacement copy from the manufacturer.

Keep in mind that an unsecured child restraint can move around in a collision or sudden stop and injure people in the vehicle. Be sure to properly secure any child restraint in the vehicle — even when no child is in it.

## Securing the Child Within the Child Restraint

**⚠ CAUTION:**

A child can be seriously injured or killed in a crash if the child is not properly secured in the child restraint. Secure the child properly following the instructions that came with that child restraint.

## Where to Put the Restraint

According to accident statistics, children and infants are safer when properly restrained in a child restraint system or infant restraint system secured in a rear seating position.

We recommend that children and child restraints be secured in a rear seat, including: an infant or a child riding in a rear-facing child restraint; a child riding in a forward-facing child seat; an older child riding in a booster seat; and children, who are large enough, using safety belts.

A label on the sun visor says, “Never put a rear-facing child restraint in the front.” This is because the risk to the rear-facing child is so great, if the airbag deploys.

**⚠ CAUTION:**

A child in a rear-facing child restraint can be seriously injured or killed if the right front passenger airbag inflates. This is because the back of the rear-facing child restraint would be very close to the inflating airbag. A child in a

CAUTION: (Continued)

**CAUTION: (Continued)**

forward-facing child restraint can be seriously injured or killed if the right front passenger airbag inflates and the passenger seat is in a forward position.

Even if the passenger sensing system has turned off the right front passenger frontal airbag, no system is fail-safe. No one can guarantee that an airbag will not deploy under some unusual circumstance, even though it is turned off.

Secure rear-facing child restraints in a rear seat, even if the airbag is off. If you secure a forward-facing child restraint in the right front seat, always move the front passenger seat as far back as it will go. It is better to secure the child restraint in a rear seat.

See *Passenger Sensing System on page 1-63* for additional information.

When securing a child restraint in a rear seating position, study the instructions that came with the child restraint to make sure it is compatible with this vehicle.

Wherever a child restraint is installed, be sure to secure the child restraint properly.

Keep in mind that an unsecured child restraint can move around in a collision or sudden stop and injure people in the vehicle. Be sure to properly secure any child restraint in the vehicle — even when no child is in it.

## Lower Anchors and Tethers for Children (LATCH)

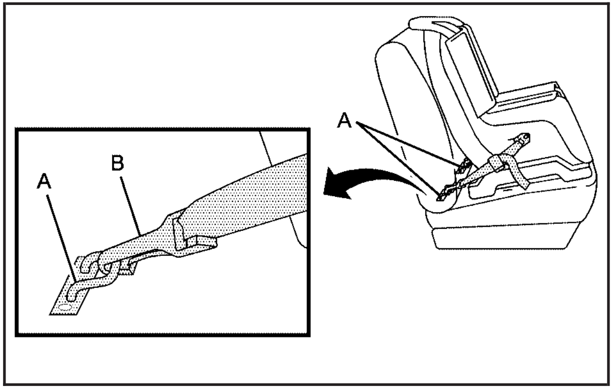
The LATCH system holds a child restraint during driving or in a crash. This system is designed to make installation of a child restraint easier. The LATCH system uses anchors in the vehicle and attachments on the child restraint that are made for use with the LATCH system.

Make sure that a LATCH-compatible child restraint is properly installed using the anchors, or use the vehicle's safety belts to secure the restraint, following the instructions that came with that restraint, and also the instructions in this manual. When installing a child restraint with a top tether, you must also use either the lower anchors or the safety belts to properly secure the child restraint. A child restraint must never be installed using only the top tether and anchor.

In order to use the LATCH system in your vehicle, you need a child restraint that has LATCH attachments. The child restraint manufacturer will provide you with instructions on how to use the child restraint and its attachments. The following explains how to attach a child restraint with these attachments in your vehicle.

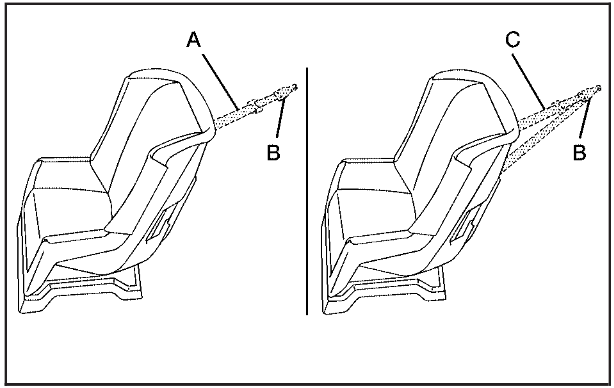
Not all vehicle seating positions or child restraints have lower anchors and attachments or top tether anchors and attachments.

## Lower Anchors




Lower anchors (A) are metal bars built into the vehicle. There are two lower anchors for each LATCH seating position that will accommodate a child restraint with lower attachments (B).

## Top Tether Anchor



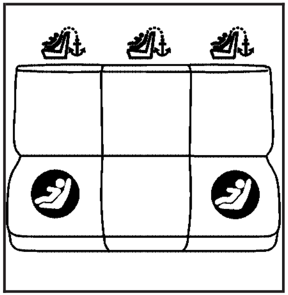

A top tether (A, C) anchors the top of the child restraint to the vehicle. A top tether anchor is built into the vehicle. The top tether attachment (B) on the child restraint connects to the top tether anchor in the vehicle in order to reduce the forward movement and rotation of the child restraint during driving or in a crash.

Your child restraint may have a single tether (A) or a dual tether (C). Either will have a single attachment (B) to secure the top tether to the anchor.

Some child restraints that have a top tether are designed for use with or without the top tether being attached. Others require the top tether always to be attached. In Canada, the law requires that forward-facing child restraints have a top tether, and that the tether be attached. Be sure to read and follow the instructions for your child restraint.

If the child restraint does not have a top tether, one can be obtained, in kit form, for many child restraints. Ask the child restraint manufacturer whether or not a kit is available.

## Lower Anchor and Top Tether Anchor Locations



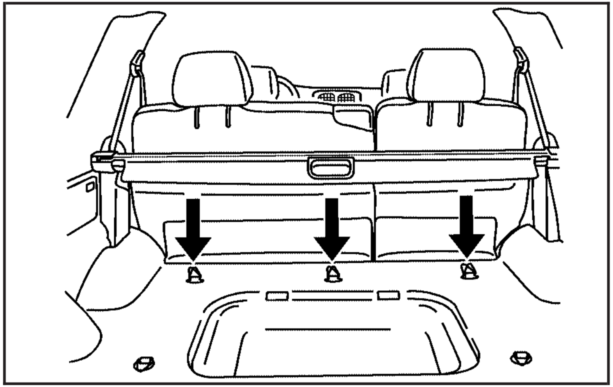
**Second Row**

(Top Tether Anchor): Seating positions with top tether anchors.

(Lower Anchor): Seating positions with two lower anchors.

To assist you in locating the lower anchors, each seating position with lower anchors has two labels, near the crease between the seatback and the seat cushion.

The labels are located above a flap, at the base of the seatback, in the rear outside seating positions. The anchors are located under the flap. In order to get to the anchors you will need to pull the strap at the center of the seat where the seat cushion meets the seatback. This will allow you to fold the seat cushion up and out of the way. Lift the flap to expose the anchors and then lower the seat cushion. Be sure the cushion is locked into place.



The top tether anchors for each rear seating position are located on the floor in the cargo area of your vehicle. Do not use the rear tie-down brackets near the liftgate for attaching top tethers. Be sure to use an anchor located on the same side of the vehicle as the seating position where the child restraint will be placed.

Do not secure a child restraint in a position without a top tether anchor if a national or local law requires that the top tether be attached, or if the instructions that come with the child restraint say that the top tether must be attached.

According to accident statistics children and infants are safer when properly restrained in a child restraint system or infant restraint system secured in a rear seating position. See *Where to Put the Restraint on page 1-42* for additional information.

## Securing a Child Restraint Designed for the LATCH System

**⚠ CAUTION:**

If a LATCH-type child restraint is not attached to anchors, the child restraint will not be able to protect the child correctly. In a crash, the child could be seriously injured or killed. Install a LATCH-type child restraint properly using the anchors, or use the vehicle’s safety belts to secure the restraint, following the instructions that came with the child restraint and the instructions in this manual.

## ⚠ CAUTION:

Do not attach more than one child restraint to a single anchor. Attaching more than one child restraint to a single anchor could cause the anchor or attachment to come loose or even break during a crash. A child or others could be injured. To reduce the risk of serious or fatal injuries during a crash, attach only one child restraint per anchor.

## ⚠ CAUTION:

Children can be seriously injured or strangled if a shoulder belt is wrapped around their neck and the safety belt continues to tighten. Buckle any unused safety belts behind the child restraint so children cannot reach them. Pull the shoulder belt all the way out of the retractor to set the lock, if your vehicle has one, after the child restraint has been installed.

***Notice:*** **Do not let the LATCH attachments rub against the vehicle's safety belts. This may damage these parts. If necessary, move buckled safety belts to avoid rubbing the LATCH attachments.**

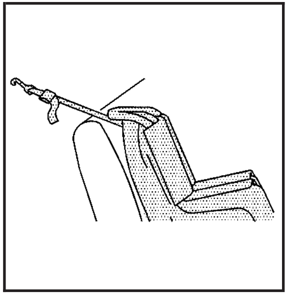
**Do not fold the empty rear seat with a safety belt buckled. This could damage the safety belt or the seat. Unbuckle and return the safety belt to its stowed position, before folding the seat.**

1. Attach and tighten the lower attachments to the lower anchors. If the child restraint does not have lower attachments or the desired seating position does not have lower anchors, secure the child restraint with the top tether and the safety belts. Refer to your child restraint manufacturer instructions and the instructions in this manual.
   1.1. Find the lower anchors for the desired seating position.
   1.2. Pull the strap at the center of the seat where the seat cushion meets the seatback. This will allow you to fold the seat cushion up and out of the way. Lift the flap to expose the anchors and then lower the seat cushion. See *Rear Seat Operation on page 1-11* for additional information. Be sure the cushion is locked into place.
   1.3. Put the child restraint on the seat.
   1.4. Attach and tighten the lower attachments on the child restraint to the lower anchors.

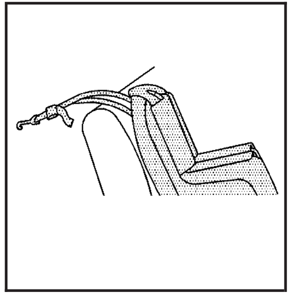
2. If the child restraint manufacturer recommends that the top tether be attached, attach and tighten the top tether to the top tether anchor, if equipped. Refer to the child restraint instructions and the following steps:

   2.1. Find the top tether anchor.

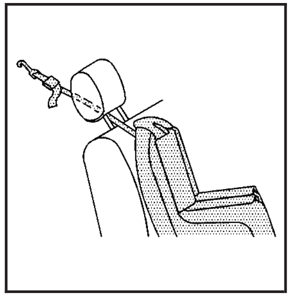
   2.2. Route, attach and tighten the top tether according to your child restraint instructions and the following instructions. If your vehicle has a cargo shade, route the top tether between the seatback and the cargo shade.



If the position you are using does not have a headrest or head restraint and you are using a single tether, route the tether over the seatback.

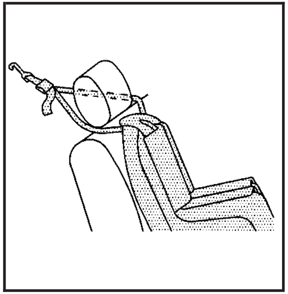


If the position you are using does not have a headrest or head restraint and you are using a dual tether, route the tether over the seatback.



For vehicles that have a headrest or head restraint, fold down the headrest or head restraint and route the single tether under the headrest or head restraint and in between the headrest or head restraint posts.

See *Rear Seat Operation on page 1-11*.



If the position you are using has a headrest or head restraint and you are using a dual tether, route the tether around the headrest or head restraint.

3. Push and pull the child restraint in different directions to be sure it is secure.

## Securing a Child Restraint in a Rear Outside Seat Position

When securing a child restraint in a rear seating position, study the instructions that came with your child restraint to make sure it is compatible with this vehicle.

If your child restraint has the LATCH system, see *Lower Anchors and Tethers for Children (LATCH) on page 1-43* for how and where to install your child restraint using LATCH. If you secure a child restraint using a safety belt and it uses a top tether, see *Lower Anchors and Tethers for Children (LATCH) on page 1-43* for top tether anchor locations.

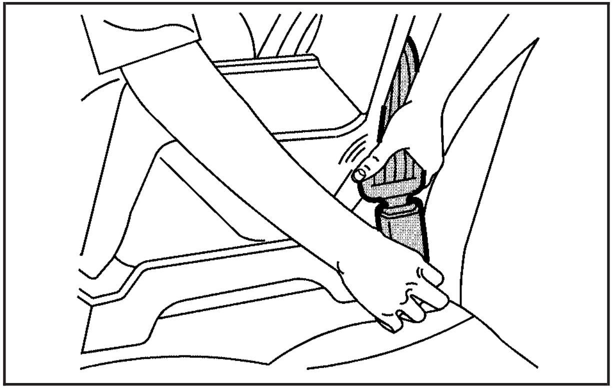
Do not secure a child seat in a position without a top tether anchor if a national or local law requires that the top tether be anchored, or if the instructions that come with the child restraint say that the top strap must be anchored.

In Canada, the law requires that forward-facing child restraints have a top tether, and that the tether be attached.

If your child restraint does not have the LATCH system, you will be using the safety belt to secure the child restraint in this position. Be sure to follow the instructions that came with the child restraint. Secure the child in the child restraint when and as the instructions say.

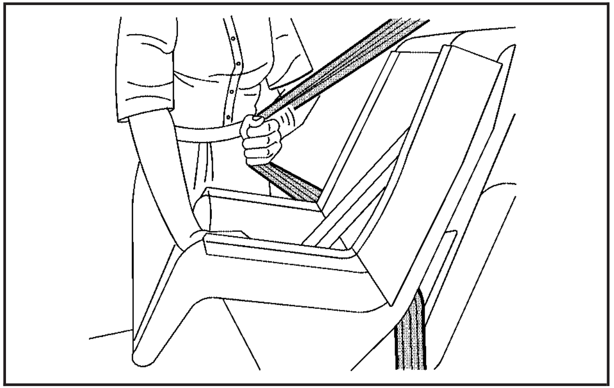
If more than one child restraint needs to be installed in the rear seat, be sure to read *Where to Put the Restraint on page 1-42*.

1. Put the child restraint on the seat.
2. Pick up the latch plate, and run the lap and shoulder portions of the vehicle's safety belt through or around the restraint. The child restraint instructions will show you how.

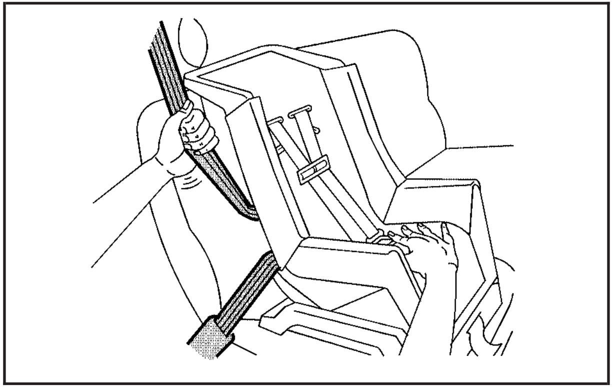


3. Push the latch plate into the buckle until it clicks.

   Position the release button on the buckle so that the safety belt could be quickly unbuckled if necessary.



4. Pull the rest of the shoulder belt all the way out of the retractor to set the lock.



5. To tighten the belt, push down on the child restraint, pull the shoulder portion of the belt to tighten the lap portion of the belt, and feed the shoulder belt back into the retractor. When installing a forward-facing child restraint, it may be helpful to use your knee to push down on the child restraint as you tighten the belt.

6. If the child restraint has a top tether, follow the child restraint manufacturer's instructions regarding the use of the top tether. See *Lower Anchors and Tethers for Children (LATCH) on page 1-43* for more information.

7. Push and pull the child restraint in different directions to be sure it is secure.

To remove the child restraint, unbuckle the vehicle safety belt and let it return to the stowed position. If the top tether is attached to a top tether anchor, disconnect it.

## Securing a Child Restraint in the Center Rear Seat Position

Many child restraints are too wide to be correctly secured in the center rear seat, although some of them will fit there. If the center seat position is too narrow for your child restraint, secure it in a rear outside seat position.

If you secure a child restraint in the center seat position, follow the instructions in *Securing a Child Restraint in a Rear Outside Seat Position on page 1-49*.

## Securing a Child Restraint in the Right Front Seat Position

This vehicle has airbags. A rear seat is a safer place to secure a forward-facing child restraint. See *Where to Put the Restraint on page 1-42*.

In addition, the vehicle has a passenger sensing system which is designed to turn off the right front passenger frontal airbag under certain conditions. See *Passenger Sensing System on page 1-63* and *Passenger Airbag Status Indicator on page 3-33* for more information, including important safety information.

A label on the sun visor says, “Never put a rear-facing child seat in the front.” This is because the risk to the rear-facing child is so great, if the airbag deploys.

**⚠ CAUTION:**

A child in a rear-facing child restraint can be seriously injured or killed if the right front passenger airbag inflates. This is because the back of the rear-facing child restraint would be very close to the inflating airbag. A child in a

CAUTION: (Continued)

**CAUTION: (Continued)**

forward-facing child restraint can be seriously injured or killed if the right front passenger airbag inflates and the passenger seat is in a forward position.

Even if the passenger sensing system has turned off the right front passenger frontal airbag, no system is fail-safe. No one can guarantee that an airbag will not deploy under some unusual circumstance, even though it is turned off.

Secure rear-facing child restraints in a rear seat, even if the airbag is off. If you secure a forward-facing child restraint in the right front seat, always move the front passenger seat as far back as it will go. It is better to secure the child restraint in a rear seat.

See *Passenger Sensing System on page 1-63* for additional information.

If the child restraint has the LATCH system, see *Lower Anchors and Tethers for Children (LATCH) on page 1-43* for how and where to install the child restraint using LATCH. If a child restraint is secured using a safety belt and it uses a top tether, see *Lower Anchors and Tethers for Children (LATCH) on page 1-43* for top tether anchor locations.

Do not secure a child seat in a position without a top tether anchor if a national or local law requires that the top tether be anchored, or if the instructions that come with the child restraint say that the top strap must be anchored.

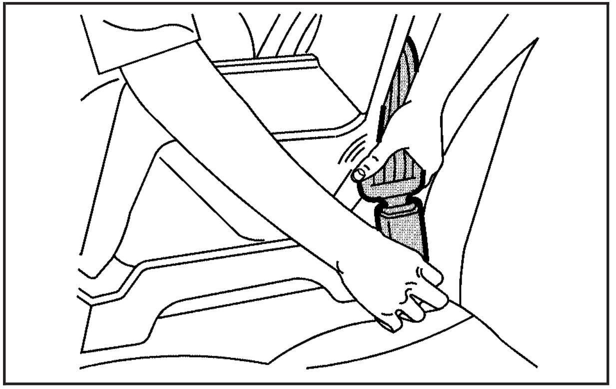
In Canada, the law requires that forward-facing child restraints have a top tether, and that the tether be attached.

You will be using the lap-shoulder belt to secure the child restraint in this position. Follow the instructions that came with the child restraint.

1. Move the seat as far back as it will go before securing the forward-facing child restraint.

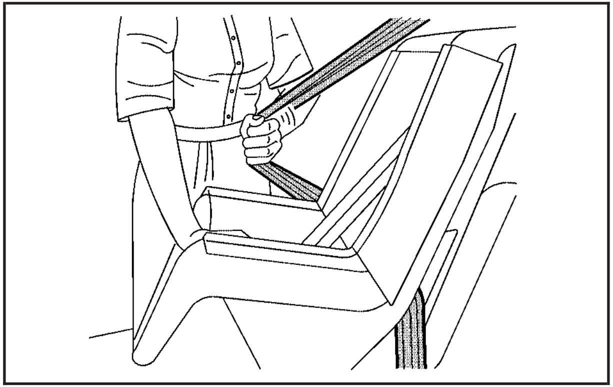
   When the passenger sensing system has turned off the right front passenger frontal airbag, the off indicator on the passenger airbag status indicator should light and stay lit when the vehicle is started. See *Passenger Airbag Status Indicator on page 3-33*.

2. Put the child restraint on the seat.
3. Pick up the latch plate, and run the lap and shoulder portions of the vehicle's safety belt through or around the restraint. The child restraint instructions will show you how.

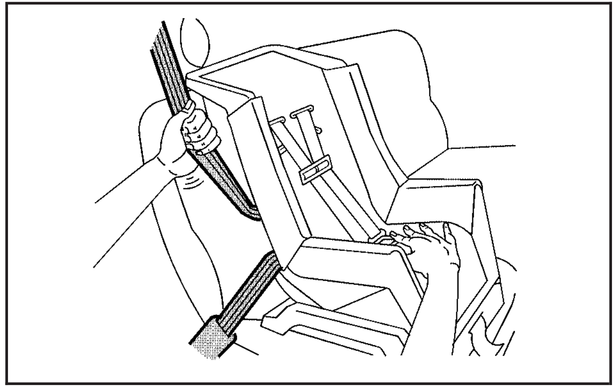


4. Push the latch plate into the buckle until it clicks.

   Position the release button on the buckle so that the safety belt could be quickly unbuckled if necessary.



5. Pull the rest of the shoulder belt all the way out of the retractor to set the lock.



6. To tighten the belt, push down on the child restraint, pull the shoulder portion of the belt to tighten the lap portion of the belt and feed the shoulder belt back into the retractor. When installing a forward-facing child restraint, it may be helpful to use your knee to push down on the child restraint as you tighten the belt.
7. Push and pull the child restraint in different directions to be sure it is secure.

If the airbag is off, the off indicator in the passenger airbag status indicator will come on and stay on when the vehicle is started.

If a child restraint has been installed and the on indicator is lit, see "If the On Indicator is Lit for a Child Restraint " under *Passenger Sensing System on page 1-63* for more information.

To remove the child restraint, unbuckle the vehicle safety belt and let it return to the stowed position.

# Airbag System

The vehicle has the following airbags:

- A frontal airbag for the driver.
- A frontal airbag for the right front passenger.
- A roof-rail airbag for the driver and the passenger seated directly behind the driver.
- A roof-rail airbag for the right front passenger and the passenger seated directly behind the right front passenger.

All of the airbags in your vehicle will have the word AIRBAG embossed in the trim or on an attached label near the deployment opening.

For frontal airbags, the word AIRBAG will appear on the middle part of the steering wheel for the driver and on the instrument panel for the right front passenger.

With roof-rail airbags, the word AIRBAG will appear along the headliner or trim.

Airbags are designed to supplement the protection provided by safety belts. Even though today's airbags are also designed to help reduce the risk of injury from the force of an inflating bag, all airbags must inflate very quickly to do their job.

Here are the most important things to know about the airbag system:

**⚠ CAUTION:**

You can be severely injured or killed in a crash if you are not wearing your safety belt — even if you have airbags. Airbags are designed to work with safety belts, but do not replace them. Also, airbags are not designed to deploy in every crash. In some crashes safety belts are your only restraint. See *When Should an Airbag Inflate? on page 1-60*.

Wearing your safety belt during a crash helps reduce your chance of hitting things inside the vehicle or being ejected from it. Airbags are "supplemental restraints" to the safety belts. Everyone in your vehicle should wear a safety belt properly — whether or not there is an airbag for that person.

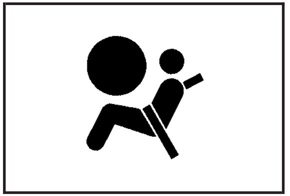
**⚠ CAUTION:**

Airbags inflate with great force, faster than the blink of an eye. Anyone who is up against, or very close to, any airbag when it inflates can be seriously injured or killed. Do not sit unnecessarily close to the airbag, as you would be if you were sitting on the edge of your seat or leaning forward. Safety belts help keep you in position before and during a crash. Always wear your safety belt, even with airbags. The driver should sit as far back as possible while still maintaining control of the vehicle.

Occupants should not lean on or sleep against the door or side windows in seating positions with roof-rail airbags.

**⚠ CAUTION:**

Children who are up against, or very close to, any airbag when it inflates can be seriously injured or killed. Airbags plus lap-shoulder belts offer protection for adults and older children, but not for young children and infants. Neither the vehicle's safety belt system nor its airbag system is designed for them. Young children and infants need the protection that a child restraint system can provide. Always secure children properly in your vehicle. To read how, see *Older Children on page 1-32* or *Infants and Young Children on page 1-35*.



There is an airbag readiness light on the instrument panel cluster, which shows the airbag symbol.

The system checks the airbag electrical system for malfunctions. The light tells you if there is an electrical problem. See *Airbag Readiness Light on page 3-32* for more information.

## Where Are the Airbags?

The driver's frontal airbag is in the middle of the steering wheel.

The right front passenger's frontal airbag is in the instrument panel on the passenger's side.

**Driver Side shown, Passenger Side similar**

The roof-rail airbags for the driver, right front passenger, and second row outboard passengers are in the ceiling above the side windows.

## ⚠ CAUTION:

If something is between an occupant and an airbag, the airbag might not inflate properly or it might force the object into that person causing severe injury or even death. The path of an inflating airbag must be kept clear. Do not put anything between an occupant and an airbag, and do not attach or put anything on the steering wheel hub or on or near any other airbag covering.

Never secure anything to the roof of a vehicle with roof-rail airbags by routing a rope or tie down through any door or window opening. If you do, the path of an inflating roof-rail airbag will be blocked.

## When Should an Airbag Inflate?

Frontal airbags are designed to inflate in moderate to severe frontal or near-frontal crashes to help reduce the potential for severe injuries mainly to the driver's or right front passenger's head and chest. However, they are only designed to inflate if the impact exceeds a predetermined deployment threshold. Deployment thresholds are used to predict how severe a crash is likely to be in time for the airbags to inflate and help restrain the occupants.

Whether your frontal airbags will or should deploy is not based on how fast your vehicle is traveling. It depends largely on what you hit, the direction of the impact, and how quickly your vehicle slows down.

Frontal airbags may inflate at different crash speeds. For example:

- If the vehicle hits a stationary object, the airbags could inflate at a different crash speed than if the vehicle hits a moving object.
- If the vehicle hits an object that deforms, the airbags could inflate at a different crash speed than if the vehicle hits an object that does not deform.
- If the vehicle hits a narrow object (like a pole), the airbags could inflate at a different crash speed than if the vehicle hits a wide object (like a wall).
- If the vehicle goes into an object at an angle, the airbags could inflate at a different crash speed than if the vehicle goes straight into the object.

Thresholds can also vary with specific vehicle design.

Frontal airbags are not intended to inflate during vehicle rollovers, rear impacts, or in many side impacts.

In addition, your vehicle has dual-stage frontal airbags. Dual-stage airbags adjust the restraint according to crash severity. Your vehicle has electronic frontal sensors, which help the sensing system distinguish between a moderate frontal impact and a more severe frontal impact. For moderate frontal impacts, dual-stage airbags inflate at a level less than full deployment. For more severe frontal impacts, full deployment occurs.

Your vehicle has seat position sensors which enables the sensing system to monitor the position of the driver's and right front passenger's seat. The sensors provide information that is used to determine if the airbags should deploy at a reduced level or at full deployment.

Your vehicle has roof-rail airbags. See *Airbag System on page 1-55*. Roof-rail airbags are intended to inflate in moderate to severe side crashes. In addition, these roof-rail airbags are intended to inflate during a rollover. Roof-rail airbags will inflate if the crash severity is above the system's designed threshold level. The threshold level can vary with specific vehicle design.

Roof-rail airbags are not intended to inflate in frontal impacts, near-frontal impacts, or rear impacts. Both roof-rail airbags will deploy when either side of the vehicle is struck or if the sensing system predicts that the vehicle is about to roll over.

In any particular crash, no one can say whether an airbag should have inflated simply because of the damage to a vehicle or because of what the repair costs were. For frontal airbags, inflation is determined by what the vehicle hits, the angle of the impact, and how quickly the vehicle slows down. For roof-rail airbags, deployment is determined by the location and severity of the side impact. In a rollover event, roof-rail airbag deployment is determined by the direction of the roll.

## What Makes an Airbag Inflate?

In a deployment event, the sensing system sends an electrical signal triggering a release of gas from the inflator. Gas from the inflator fills the airbag causing the bag to break out of the cover and deploy. The inflator, the airbag, and related hardware are all part of the airbag module.

Frontal airbag modules are located inside the steering wheel and instrument panel. For vehicles with roof-rail airbags, there are airbag modules in the ceiling of the vehicle, near the side windows that have occupant seating positions.

## How Does an Airbag Restrain?

In moderate to severe frontal or near frontal collisions, even belted occupants can contact the steering wheel or the instrument panel. In moderate to severe side collisions, even belted occupants can contact the inside of the vehicle.

Airbags supplement the protection provided by safety belts. Frontal airbags distribute the force of the impact more evenly over the occupant's upper body, stopping the occupant more gradually. Roof-rail airbags distribute the force of the impact more evenly over the occupant's upper body.

Rollover capable roof-rail airbags are designed to help contain the head and chest of occupants in the outboard seating positions in the first and second rows. The rollover capable roof-rail airbags are designed to help reduce the risk of full or partial ejection in rollover events, although no system can prevent all such ejections.

But airbags would not help in many types of collisions, primarily because the occupant's motion is not toward those airbags. See *When Should an Airbag Inflate? on page 1-60* for more information.

Airbags should never be regarded as anything more than a supplement to safety belts.

## What Will You See After an Airbag Inflates?

After the frontal airbags inflate, they quickly deflate, so quickly that some people may not even realize an airbag inflated. Roof-rail airbags may still be at least partially inflated for some time after they deploy. Some components of the airbag module may be hot for several minutes. For location of the airbag modules, see *What Makes an Airbag Inflate? on page 1-61*.

The parts of the airbag that come into contact with you may be warm, but not too hot to touch. There may be some smoke and dust coming from the vents in the deflated airbags. Airbag inflation does not prevent the driver from seeing out of the windshield or being able to steer the vehicle, nor does it prevent people from leaving the vehicle.

**⚠ CAUTION:**

When an airbag inflates, there may be dust in the air. This dust could cause breathing problems for people with a history of asthma or other breathing trouble. To avoid this, everyone in the vehicle should get out as soon as it is safe to do so. If you have breathing problems but cannot get out of the vehicle after an airbag inflates, then get fresh air by opening a window or a door. If you experience breathing problems following an airbag deployment, you should seek medical attention.

The vehicle has a feature that may automatically unlock the doors, turn the interior lamps on, and turn the hazard warning flashers on when the airbags inflate. You can lock the doors, turn the interior lamps off, and turn the hazard warning flashers off by using the controls for those features.

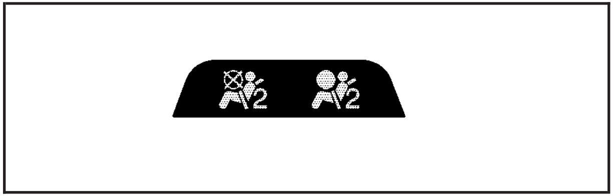
In many crashes severe enough to inflate the airbag, windshields are broken by vehicle deformation. Additional windshield breakage may also occur from the right front passenger airbag.

- Airbags are designed to inflate only once. After an airbag inflates, you will need some new parts for the airbag system. If you do not get them, the airbag system will not be there to help protect you in another crash. A new system will include airbag modules and possibly other parts. The service manual for the vehicle covers the need to replace other parts.
- The vehicle has a crash sensing and diagnostic module which records information after a crash. See *Vehicle Data Recording and Privacy on page 7-17* and *Event Data Recorders on page 7-18*.
- Let only qualified technicians work on the airbag systems. Improper service can mean that an airbag system will not work properly. See your dealer/retailer for service.

## Passenger Sensing System

The vehicle has a passenger sensing system for the right front passenger position. The passenger airbag status indicator will be visible in the rearview mirror when the vehicle is started.

**United States**



**Canada**

The words ON and OFF, or the symbol for on and off, will be visible during the system check. When the system check is complete, either the word ON or OFF, or the symbol for on or off, will be visible. See *Passenger Airbag Status Indicator on page 3-33*.

The passenger sensing system will turn off the right front passenger frontal airbag under certain conditions. The driver airbags and roof-rail airbags are not affected by the passenger sensing system.

The passenger sensing system works with sensors that are part of the right front passenger seat. The sensors are designed to detect the presence of a properly-seated occupant and determine if the right front passenger frontal airbag should be enabled (may inflate) or not.

According to accident statistics, children are safer when properly secured in a rear seat in the correct child restraint for their weight and size.

We recommend that children be secured in a rear seat, including: an infant or a child riding in a rear-facing child restraint; a child riding in a forward-facing child seat; an older child riding in a booster seat; and children, who are large enough, using safety belts.

A label on the sun visor says, "Never put a rear-facing child seat in the front." This is because the risk to the rear-facing child is so great, if the airbag deploys.

**⚠ CAUTION:**

A child in a rear-facing child restraint can be seriously injured or killed if the right front passenger airbag inflates. This is because the back of the rear-facing child restraint would be very close to the inflating airbag. A child in a forward-facing child restraint can be seriously injured or killed if the right front passenger airbag inflates and the passenger seat is in a forward position.

Even if the passenger sensing system has turned off the right front passenger frontal airbag, no system is fail-safe. No one can guarantee that an airbag will not deploy under some unusual circumstance, even though the airbag is turned off.

Secure rear-facing child restraints in a rear seat, even if the airbag is off. If you secure a forward-facing child restraint in the right front seat, always move the front passenger seat as far back as it will go. It is better to secure the child restraint in a rear seat.

The passenger sensing system is designed to turn off the right front passenger frontal airbag if:

- The right front passenger seat is unoccupied.
- The system determines that an infant is present in a rear-facing infant seat.
- The system determines that a small child is present in a child restraint.
- The system determines that a small child is present in a booster seat.
- A right front passenger takes his/her weight off of the seat for a period of time.
- The right front passenger seat is occupied by a smaller person, such as a child who has outgrown child restraints.
- Or, if there is a critical problem with the airbag system or the passenger sensing system.

When the passenger sensing system has turned off the right front passenger frontal airbag, the off indicator will light and stay lit to remind you that the airbag is off. See *Passenger Airbag Status Indicator on page 3-33*.

The passenger sensing system is designed to turn on (may inflate) the right front passenger frontal airbag anytime the system senses that a person of adult size is sitting properly in the right front passenger seat.

When the passenger sensing system has allowed the airbag to be enabled, the on indicator will light and stay lit to remind you that the airbag is active.

For some children who have outgrown child restraints and for very small adults, the passenger sensing system may or may not turn off the right front passenger frontal airbag, depending upon the person's seating posture and body build. Everyone in the vehicle who has outgrown child restraints should wear a safety belt properly — whether or not there is an airbag for that person.

**⚠ CAUTION:**

> If the airbag readiness light ever comes on and stays on, it means that something may be wrong with the airbag system. To help avoid injury to yourself or others, have the vehicle serviced right away. See *Airbag Readiness Light on page 3-32* for more information, including important safety information.

## If the On Indicator is Lit for a Child Restraint

If a child restraint has been installed and the on indicator is lit:

1. Turn the vehicle off.
2. Remove the child restraint from the vehicle.
3. Remove any additional items from the seat such as blankets, cushions, seat covers, seat heaters, or seat massagers.
4. Reinstall the child restraint following the directions provided by the child restraint manufacturer and refer to *Securing a Child Restraint in the Right Front Seat Position on page 1-52*.
5. If, after reinstalling the child restraint and restarting the vehicle, the on indicator is still lit, turn the vehicle off. Then slightly recline the vehicle seatback and adjust the seat cushion, if adjustable, to make sure that the vehicle seatback is not pushing the child restraint into the seat cushion.

   Also make sure the child restraint is not trapped under the vehicle head restraint. If this happens, adjust the head restraint. See *Head Restraints on page 1-10*.
6. Restart the vehicle.

   If the on indicator is still lit, secure the child in the child restraint in a rear seat position in the vehicle, and check with your dealer/retailer.

## If the Off Indicator is Lit for an Adult-Size Occupant

If a person of adult-size is sitting in the right front passenger seat, but the off indicator is lit, it could be because that person is not sitting properly in the seat.

If this happens, use the following steps to allow the system to detect that person and enable the right front passenger frontal airbag:

1. Turn the vehicle off.
2. Remove any additional material from the seat, such as blankets, cushions, seat covers, seat heaters, or seat massagers.
3. Place the seatback in the fully upright position.
4. Have the person sit upright in the seat, centered on the seat cushion, with legs comfortably extended.
5. Restart the vehicle and have the person remain in this position for two to three minutes after the on indicator is lit.

## Additional Factors Affecting System Operation

Safety belts help keep the passenger in position on the seat during vehicle maneuvers and braking, which helps the passenger sensing system maintain the passenger airbag status. See “Safety Belts” and “Child Restraints” in the Index for additional information about the importance of proper restraint use.

A thick layer of additional material, such as a blanket or cushion, or aftermarket equipment such as seat covers, seat heaters, and seat massagers can affect how well the passenger sensing system operates. We recommend that you not use seat covers or other aftermarket equipment except when approved by GM for your specific vehicle. See *Adding Equipment to Your Airbag-Equipped Vehicle on page 1-68* for more information about modifications that can affect how the system operates.

**⚠ CAUTION:**

Stowing of articles under the passenger seat or between the passenger seat cushion and seatback may interfere with the proper operation of the passenger sensing system.

## Servicing Your Airbag-Equipped Vehicle

Airbags affect how the vehicle should be serviced. There are parts of the airbag system in several places around the vehicle. Your dealer/retailer and the service manual have information about servicing the vehicle and the airbag system. To purchase a service manual, see *Service Publications Ordering Information on page 7-16*.

### ⚠ CAUTION:

For up to 10 seconds after the ignition is turned off and the battery is disconnected, an airbag can still inflate during improper service. You can be injured if you are close to an airbag when it inflates. Avoid yellow connectors. They are probably part of the airbag system. Be sure to follow proper service procedures, and make sure the person performing work for you is qualified to do so.

## Adding Equipment to Your Airbag-Equipped Vehicle

**Q: Is there anything I might add to or change about the vehicle that could keep the airbags from working properly?**

**A:** Yes. If you add things that change your vehicle's frame, bumper system, height, front end or side sheet metal, they may keep the airbag system from working properly. Changing or moving any parts of the front seats, safety belts, the airbag sensing and diagnostic module, steering wheel, instrument panel, roof-rail airbag modules, ceiling headliner or pillar garnish trim, rearview mirror, front sensors, rollover sensor module, or airbag wiring can affect the operation of the airbag system.

In addition, your vehicle has a passenger sensing system for the right front passenger's position, which includes sensors that are part of the passenger's seat. The passenger sensing system may not operate properly if the original seat trim is replaced with non-GM covers, upholstery or trim, or with GM covers, upholstery or trim designed for a different vehicle.

Any object, such as an aftermarket seat heater or a comfort enhancing pad or device, installed under or on top of the seat fabric, could also interfere with the operation of the passenger sensing system. This could either prevent proper deployment of the passenger airbag(s) or prevent the passenger sensing system from properly turning off the passenger airbag(s). See *Passenger Sensing System on page 1-63*.

If you have any questions about this, you should contact Customer Assistance before you modify your vehicle. The phone numbers and addresses for Customer Assistance are in Step Two of the Customer Satisfaction Procedure in this manual. See *Customer Satisfaction Procedure on page 7-2*.

If your vehicle has rollover roof-rail airbags, see *Different Size Tires and Wheels on page 5-77* for additional important information.

**Q: Because I have a disability, I have to get my vehicle modified. How can I find out whether this will affect my airbag system?**

**A:** If you have questions, call Customer Assistance. The phone numbers and addresses for Customer Assistance are in Step Two of the Customer Satisfaction Procedure in this manual. See *Customer Satisfaction Procedure on page 7-2*.

In addition, your dealer/retailer and the service manual have information about the location of the airbag sensors, sensing and diagnostic module and airbag wiring.

# Restraint System Check

## Checking the Restraint Systems

### Safety Belts

Now and then, check the safety belt reminder light, safety belts, buckles, latch plates, retractors, and anchorages are all working properly.

Look for any other loose or damaged safety belt system parts that might keep a safety belt system from doing its job. See your dealer/retailer to have it repaired. Torn or frayed safety belts may not protect you in a crash. They can rip apart under impact forces. If a belt is torn or frayed, get a new one right away.

Make sure the safety belt reminder light is working. See *Safety Belt Reminders on page 3-31* for more information.

Keep safety belts clean and dry. See *Care of Safety Belts on page 5-112*.

### Airbags

The airbag system does not need regularly scheduled maintenance or replacement. Make sure the airbag readiness light is working. See *Airbag Readiness Light on page 3-32* for more information.

***Notice:*** **If an airbag covering is damaged, opened, or broken, the airbag may not work properly. Do not open or break the airbag coverings. If there are any opened or broken airbag covers, have the airbag covering and/or airbag module replaced. For the location of the airbag modules, see *What Makes an Airbag Inflate? on page 1-61*. See your dealer/retailer for service.**

## Replacing Restraint System Parts After a Crash

**⚠ CAUTION:**

A crash can damage the restraint systems in your vehicle. A damaged restraint system may not properly protect the person using it, resulting in serious injury or even death in a crash. To help make sure your restraint systems are working properly after a crash, have them inspected and any necessary replacements made as soon as possible.

If the vehicle has been in a crash, do you need new safety belts or LATCH system (if equipped) parts?

After a very minor crash, nothing may be necessary. But the safety belt assemblies that were used during any crash may have been stressed or damaged. See your dealer/retailer to have the safety belt assemblies inspected or replaced.

If the vehicle has the LATCH system and it was being used during a crash, you may need new LATCH system parts.

New parts and repairs may be necessary even if the safety belt or LATCH system (if equipped), was not being used at the time of the crash.

If an airbag inflates, you will need to replace airbag system parts. See the part on the airbag system earlier in this section.

Have the safety belt pretensioners checked if the vehicle has been in a crash, if the airbag readiness light stays on after the vehicle is started, or while you are driving. See *Airbag Readiness Light on page 3-32*.

## ✍ NOTES

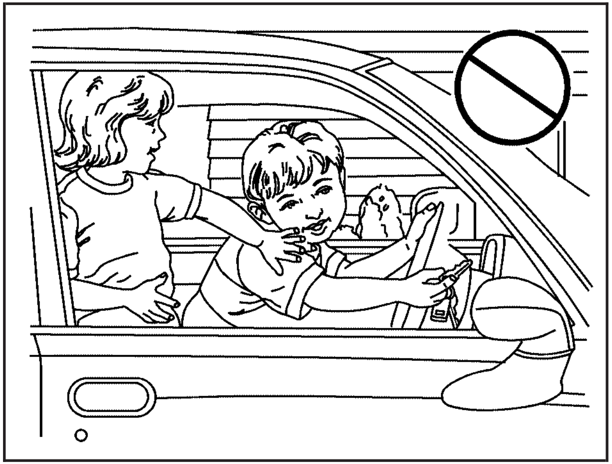
# Section 2 Features and Controls

# Section 2 Features and Controls

# Keys

**⚠ CAUTION:**

Leaving children in a vehicle with the ignition key is dangerous for many reasons, children or others could be badly injured or even killed. They could operate the power windows or other controls or even make the vehicle move. The windows will function with the keys in the ignition and children could be seriously injured or killed if caught in the path of a closing window. Do not leave the keys in a vehicle with children.



This vehicle has keys that can be used for the ignition and door lock that will fit with either side up.

When a new vehicle is delivered, the dealer/retailer provides the owner with a pair of identical keys and a key code number.

The key code number tells your dealer/retailer or a qualified locksmith how to make extra keys. Keep this number in a safe place. If you lose your keys, you will be able to have new ones made easily using this number. Your selling dealer/retailer should also have this number.

***Notice:*** **If you ever lock your keys in the vehicle, you may have to damage the vehicle to get in. Be sure you have spare keys.**

If you ever get locked out of your vehicle, call the Roadside Assistance Center. See *Roadside Assistance Program on page 7-7*.

## Remote Keyless Entry (RKE) System

If this vehicle has the Remote Keyless Entry (RKE) system, it operates on a radio frequency subject to Federal Communications Commission (FCC) Rules and with Industry Canada.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference received, including interference that may cause undesired operation of the device.

This device complies with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference received, including interference that may cause undesired operation of the device.

Changes or modifications to this system by other than an authorized service facility could void authorization to use this equipment.

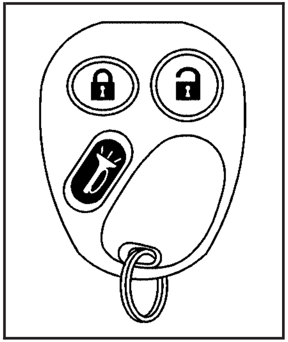
If there is a decrease in the RKE operating range, try this:

- Check the distance. The transmitter may be too far from the vehicle. Stand closer during rainy or snowy weather.
- Check the location. Other vehicles or objects may be blocking the signal. Take a few steps to the left or right, hold the transmitter higher, and try again.
- Check the transmitter’s battery. See “Battery Replacement” later in this section.
- If the transmitter is still not working correctly, see your dealer/retailer or a qualified technician for service.

## Remote Keyless Entry (RKE) System Operation

The Remote Keyless Entry (RKE) transmitter functions work up to 30 feet (9 m) away from the vehicle.

There are other conditions which can affect the performance of the transmitter. See *Remote Keyless Entry (RKE) System on page 2-4*.



**(Unlock):** Press once to unlock the driver door. The parking lamps flash and the interior lights come on. Press a second time within three seconds to unlock all the doors.

To program different feedback settings through the Driver Information Center (DIC), see *Driver Information Center (DIC) on page 3-47*.

**(Lock):** Press to lock all the doors. Press again within three seconds and the horn chirps.

**(Panic):** Press to sound the horn. The headlamps and taillamps flash for up to 30 seconds. To turn it off, press again, or wait 30 seconds, or start the vehicle.

## Programming Transmitters to the Vehicle

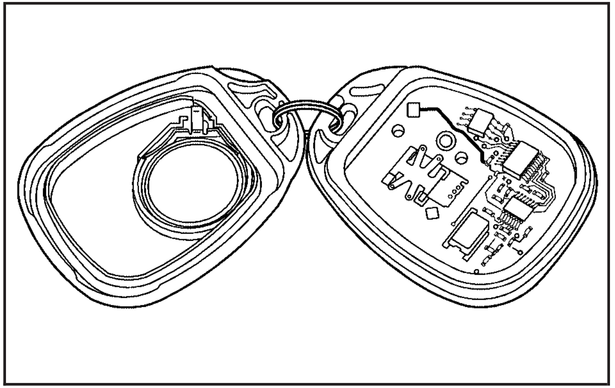
Only RKE transmitters programmed to the vehicle will work. If a transmitter is lost or stolen, a replacement can be purchased and programmed through your dealer/retailer. When the replacement transmitter is programmed to the vehicle, all remaining transmitters must also be programmed. Any lost or stolen transmitters no longer work once the new transmitter is programmed. Each vehicle can have up to four transmitters programmed to it.

## Battery Replacement

Replace the battery if the KEY FOB # BATTERY LOW message displays in the DIC. See “KEY FOB # BATTERY LOW” under *DIC Warnings and Messages on page 3-51* for additional information.

***Notice:*** **When replacing the battery, do not touch any of the circuitry on the transmitter. Static from your body could damage the transmitter.**

To replace the battery:



1. Separate the transmitter with a flat, thin object inserted into the slot between the covers of the transmitter housing.
2. Remove the old battery. Do not use a metal object.
3. Insert the new battery. Replace with a CR2032 or equivalent battery.
4. Snap the transmitter back together.

# Doors and Locks

## Door Locks

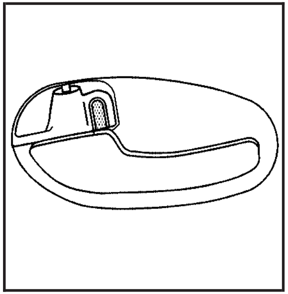
**⚠ CAUTION:**

Unlocked doors can be dangerous.

- Passengers, especially children, can easily open the doors and fall out of a moving vehicle. When a door is locked, the handle will not open it. You increase the chance of being thrown out of the vehicle in a crash if the doors are not locked. So, wear safety belts properly and lock the doors whenever you drive.
- Young children who get into unlocked vehicles may be unable to get out. A child can be overcome by extreme heat and can suffer permanent injuries or even death from heat stroke. Always lock your vehicle whenever you leave it.
- Outsiders can easily enter through an unlocked door when you slow down or stop your vehicle. Locking your doors can help prevent this from happening.

There are several ways to lock and unlock your vehicle. You can use the remote keyless entry transmitter.

You can use your key to unlock your door from the outside.

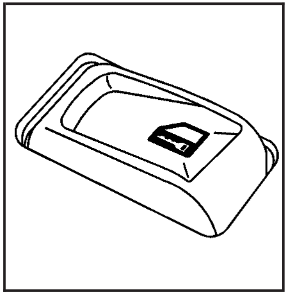


You can lock or unlock the door from the inside by sliding the manual lever forward or rearward.

When the door is unlocked, you can see a red area on the lever.

The manual lever on each door works only that door's lock.

# Power Door Locks



The power door lock switches are located on the driver's and front passenger's door armrests.

Press the lock symbol to lock all of the doors. To unlock the doors, press the other side of the switch.

# Delayed Locking

This feature delays the locking of the doors and the liftgate when using the power lock or the remote keyless entry system.

The first press of the power door lock switch or lock button on the remote keyless entry transmitter with the driver's door open will activate the delay locking. A chime will sound. All doors and the liftgate can be reopened for up to five seconds from the time the last door is closed.

Five seconds after the last door is closed, all the doors will lock. You can lock the doors immediately by using the power door lock switch or by pressing the lock button on the optional remote keyless entry transmitter a second time.

If the key is inserted in the ignition, this feature will not lock the doors. See *Lockout Protection on page 2-12*.

You can turn the delayed locking feature on or off. If the feature is turned off, the doors will lock immediately when a power door lock switch or remote keyless entry transmitter lock button is pressed.

### Programming Delayed Locking

To turn the delayed locking feature on or off, do the following:

1. Press and hold the power door lock switch on the driver's door in the lock position.
2. Press the remote keyless entry transmitter unlock button twice.

If the delayed locking feature was on, it will now be off. If the feature was off, it will now be on.

## Programmable Automatic Door Locks

Your vehicle is equipped with an automatic lock/unlock feature which enables you to program your vehicle's power door locks. You can program this feature through the Driver Information Center (DIC), or by the following method. See *DIC Vehicle Customization on page 3-56*.

## Programmable Locking Feature

Following are the two locking modes that can be programmed:

**Mode 1:** All doors lock when the transmission is shifted out of (P) Park.

**Mode 2:** All doors lock when the vehicle speed is greater than 8 mph (13 km/h).

The automatic door locks were pre-programmed at the factory to lock all the doors when the transmission is shifted into gear. The following instructions detail how to program your door locks differently than the factory setting. Choose one of the two programming options listed previously before entering the program mode.

To enter the program mode, do the following:

1. Begin with the ignition off. Then pull the turn signal/multifunction lever toward you and hold it there while you perform the next step.
2. Turn the key to ON/RUN and LOCK/OFF twice. Then, with the key in LOCK/OFF, release the turn signal/multifunction lever. Once you do this, you will hear the lock switch lock and unlock, the horn will chirp twice, and a 30-second program timer will begin.

3. You are now ready to program the automatic door locks. Select one of the two programming options listed previously, and press the lock side of the power door lock switch to cycle through the lock options. You will have 30 seconds to begin programming. If you exceed the 30-second limit, the locks will automatically lock and unlock and the horn will chirp twice to indicate that you have left the program mode. If this occurs, repeat the procedure beginning with Step 1 to re-enter the programming mode.

You can exit the program mode any time by turning the ignition to ON/RUN. The locks will automatically lock and unlock and the horn will chirp twice to indicate that you are leaving the program mode. If the lock/unlock switches are not pressed while in the programming mode, the current auto lock/unlock setting will not be modified.

See your dealer for more information.

## Programmable Unlocking Feature

The following is the list of available programming options:

**Mode 1:** Driver's door unlocks when the transmission is shifted into (P) Park.

**Mode 2:** All doors unlock when the transmission is shifted into (P) Park.

**Mode 3:** All doors unlock when the key is removed from the ignition.

**Mode 4:** No automatic door unlock.

The automatic door locks were pre-programmed at the factory to unlock all doors once the transmission is shifted to (P) Park. The following instructions detail how to program your door locks differently than the factory setting. Choose one of the four programming options listed previously before entering the program mode.

To enter the program mode you need to do the following:

1. Begin with the ignition off. Then pull the turn signal/ multifunction lever toward you and hold it there while you perform the next step.
2. Turn the key to ON/RUN and LOCK/OFF twice. Then, with the key in LOCK/OFF, release the turn signal/multifunction lever. Once you do this, you will hear the lock switch lock and unlock, the horn will chirp twice, and a 30-second program timer will begin.
3. You are now ready to program the automatic door locks. Select one of the four programming options listed above, and press the unlock side of the power door lock switch to cycle through the unlocking options. You will have 30 seconds to begin programming. If you exceed the 30-second limit, the locks will automatically lock and unlock and the horn will chirp twice to indicate that you have left the program mode. If this occurs, repeat the procedure beginning with Step 1 to re-enter the programming mode.

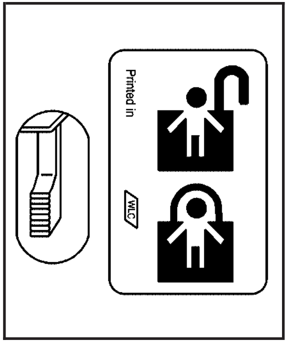
You can exit the program mode any time by turning the ignition to ON/RUN. The locks will automatically lock and unlock and the horn will chirp twice to indicate that you are leaving the program mode. If the lock/unlock switches are not pressed while in the programming mode, the current auto lock/unlock setting will not be modified.

See your dealer for more information.

## Rear Door Security Locks

Your vehicle may have this feature. You can lock the rear doors so they cannot be opened from the inside by passengers. To use one of these locks do the following:

1. Open one of the rear doors. You will find a security lock lever located on the inside edge of each rear door.




2. Move the lever down to engage the security lock. Move the lever up to disengage the security lock.
3. Close the door.

The rear doors of your vehicle cannot be opened from the inside while this feature is in use. If you want to open the rear door while the security lock is on, unlock the door and open the door from the outside.

## Lockout Protection

This feature stops the power door locks from locking when the key is in the ignition and a door is open to protect you from locking your key in the vehicle.

If the power lock switch is pressed when a door is open and the key is in the ignition, all the doors will lock and then the driver's door will unlock.

# Liftgate/Liftglass

**⚠ CAUTION:**

It can be dangerous to drive with the liftgate or liftglass open because carbon monoxide (CO) gas can come into your vehicle. You cannot see or smell CO. It can cause unconsciousness and even death. If you must drive with the liftgate open or if electrical wiring or other cable connections must pass through the seal between the body and the liftgate or liftglass:

- Make sure all other windows are shut.
- Turn the fan on your climate control system to its highest speed and select the control setting that will force outside air into your vehicle. See “Climate Control System” in the Index.
- If you have air outlets on or under the instrument panel, open them all the way. See *Engine Exhaust on page 2-38*.

## Liftgate Release

To unlock the liftgate, use the power door lock switch or the remote keyless entry transmitter. See *Remote Keyless Entry (RKE) System Operation on page 2-5*. The liftglass will also unlock when the liftgate is unlocked.

Press the button on the liftglass to open it. To open the entire liftgate, lift the handle located in the center of the liftgate. When the liftgate is opened, the liftglass will lock after a short delay.

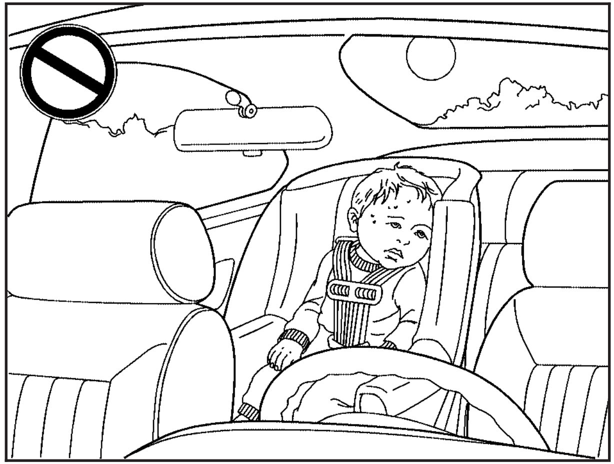
## Emergency Release for Opening Liftgate

1. Remove the trim plug, located on the inside of the liftgate in the center, to expose the access hole in the trim panel.
2. Use a tool to reach through the access hole in the trim panel.
3. Pry the left release lever up to the unlock position. Pry the right release lever up to unlatch the liftgate.
4. Reinstall the trim plug.

# Windows

**⚠ CAUTION:**

Leaving children, helpless adults, or pets in a vehicle with the windows closed is dangerous. They can be overcome by the extreme heat and suffer permanent injuries or even death from heat stroke. Never leave a child, a helpless adult, or a pet alone in a vehicle, especially with the windows closed in warm or hot weather.

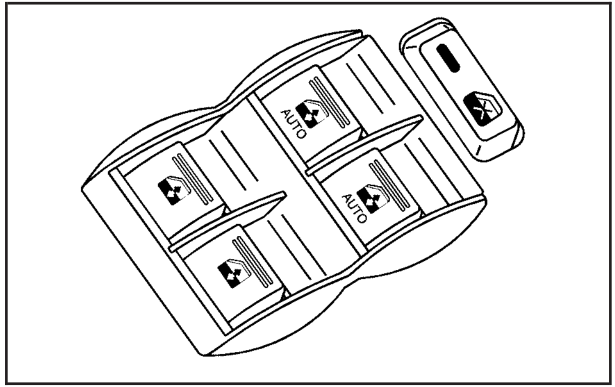


## Power Windows

**⚠ CAUTION:**

Leaving children in a vehicle with the keys is dangerous for many reasons, children or others could be badly injured or even killed. They could operate the power windows or other controls or even make the vehicle move. The windows will function and they could be seriously injured or killed if caught in the path of a closing window. Do not leave keys in a vehicle with children.

When there are children in the rear seat use the window lockout button to prevent unintentional operation of the windows.




The controls for the power windows are located on the armrest on each of the side doors. With power windows, the switches operate the windows when the ignition is in ON/RUN, ACC/ACCESSORY or when Retained Accessory Power (RAP) is active. See *Retained Accessory Power (RAP) on page 2-23*. The driver's door also has a switch for each of the passenger's windows.

Press down the top of the switch to lower the window and pull up on the switch to raise the window. If you hold the switch down for three to seven seconds after the window has been completely lowered or raised, the window will not operate for about 15 seconds.

## Express-Down Window

**AUTO (Express-down):** The driver's and front passenger's window switches have an express-down feature that allows you to lower the window without holding the switch down. Press down briefly on the driver's or front passenger's window switch labeled AUTO to activate the express-down feature. Lightly tap the switch to open the window slightly. The express-down feature can be interrupted at any time by pressing the top of the switch.

## Window Lockout

**(Lockout):** Your vehicle has a lockout feature to prevent passengers from operating the power windows. The lockout switch is located in front of the window switches on the driver's door. A light in the lockout switch will come on to show that the switch has been activated. Press the lockout switch again to return to normal operation.

# Sun Visors

## Sun Visors with Slide Rod

Your vehicle may have this feature. Pull the sun visor down to block glare. Detach the sun visor from the center mount and slide it along the rod from side-to-side to cover the driver or passenger side of the front window. Swing the sun visor to the side to cover the side window. It can also be moved along the rod from side-to-side in this position.

## Sun Visors with Fixed Rod and Pull-out Extension

Your vehicle may have this feature. Pull the sun visor down to block glare. Pull the sun visor extender out for additional coverage. Detach the sun visor from the center mount and swing it to the side to cover the side window.

## Visor Vanity Mirror

Pull the sun visor down to expose the vanity mirror. You may have to lift a cover to expose the mirror.

## Lighted Visor Vanity Mirror

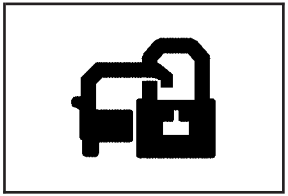
Your vehicle may have this feature. Pull the sun visor down and lift the mirror cover to turn on the lamps. The lamps will turn off when the cover is closed.

# Theft-Deterrent Systems

Vehicle theft is big business, especially in some cities. This vehicle has theft-deterrent features, however, they do not make it impossible to steal.

## Content Theft-Deterrent

Your vehicle may have a content theft-deterrent alarm system.



The security light is located on the instrument panel cluster.

To operate the system:

1. Open the door.
2. Lock the door with the power door lock switch or the Remote Keyless Entry (RKE) transmitter. The security light should flash.

   The system will not activate if the doors are locked with the key or manual door lock.
3. Close all doors. The security light should turn off after about 30 seconds. The alarm is not armed until the security light turns off.

If a locked door is opened without the key or the RKE transmitter, the alarm will go off. The headlamps and parking lamps will flash for two minutes, and the horn will sound for 30 seconds, then will turn off to save the battery power.

To avoid setting off the alarm by accident:

- Always lock the vehicle using the door key *after* the doors are closed.
- Always unlock a door with a key, or use the RKE transmitter. Unlocking a door any other way will set off the alarm.

To turn off the alarm, press unlock on the RKE transmitter or unlock any door with the key.

## Testing the Alarm

To test the alarm:

1. From inside the vehicle, lower the driver's window and open the driver's door.
2. Activate the system by locking the doors with the power door lock switch while the door is open, or with the RKE transmitter.
3. Get out of the vehicle, close the door and wait for the security light to go out.
4. Then reach in through the window, unlock the door with the manual door lock and open the door. This should set off the alarm.

When the alarm is set the power door unlock switch will not work.

If the alarm does not sound when it should but the headlamps flash, check to see if the horn works. The horn fuse may be blown. To replace the fuse, see *Fuses and Circuit Breakers on page 5-119*.

If the alarm does not sound or the headlamps do not flash, the vehicle should be serviced by your dealer/retailer.

## Passlock® (U.S. Only)

Your vehicle has the Passlock theft-deterrent system.

Passlock is a passive theft-deterrent system that enables fuel if the ignition lock cylinder is turned with a valid key. If a correct key is not used or the ignition lock cylinder has been tampered with, the fuel system is disabled and the vehicle will not start.

During normal operation, the security light will turn off about five seconds after the key is turned to ON/RUN.

If the engine stalls and the security light flashes, wait about 10 minutes until the light stops flashing before trying to restart the engine. Remember to release the key from START as soon as the engine starts.

If the engine does not start after three tries, the vehicle needs service.

If the engine is running and the security light comes on, you will be able to restart the engine if you turn the engine off. However, your Passlock system is not working properly and must be serviced by your dealer/retailer. Your vehicle is not protected by Passlock at this time. You may also want to check the fuse. See *Fuses and Circuit Breakers on page 5-119*. See your dealer/retailer for service.

In an emergency, call the Roadside Assistance Center. See *Roadside Assistance Program on page 7-7*.

Do not leave the key or device that disarms or deactivates the theft deterrent system in the vehicle.

## PASS-Key® III+ Electronic Immobilizer

The PASS-Key III+ system operates on a radio frequency subject to Federal Communications Commission (FCC) Rules and with Industry Canada.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

This device complies with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference received, including interference that may cause undesired operation of the device.

Changes or modifications to this system by other than an authorized service facility could void authorization to use this equipment.

PASS-Key III+ uses a radio frequency transponder in the key that matches a decoder in the vehicle.

## PASS-Key® III+ Electronic Immobilizer Operation (Canada Only)

Your vehicle has a passive theft-deterrent system.

The system is automatically armed when the key is removed from the ignition.

The system is automatically disarmed when the key is turned to ON/RUN.

You do not have to manually arm or disarm the system.

The security light will come on if there is a problem with arming or disarming the theft-deterrent system.

The key uses a transponder that matches an immobilizer control unit in your vehicle. Only the correct key will start the vehicle. If the key is ever damaged, you may not be able to start your vehicle.

When trying to start the vehicle, if the engine does not start and the security light comes on, there may be a problem with your theft-deterrent system. Turn the ignition off and try again.

If the engine still does not start, and the key appears to be undamaged, try another ignition key. At this time, you may also want to check the fuse. See *Fuses and Circuit Breakers on page 5-119*. If the engine still does not start with the other key, your vehicle needs service. If your vehicle does start, the first key may be faulty. See your dealer/retailer who can service the theft-deterrent system and have a new key made.

It is possible for the theft-deterrent system decoder to learn the transponder value of a new or replacement key. Up to 10 keys may be programmed for the vehicle. The following procedure is for programming additional keys only.

**Canadian Owners:** If you lose or damage your keys, only a dealer/retailer can service the theft-deterrent system to have new keys made. To program additional keys you will require two current driver's keys.

To program a new key do the following:

1. Verify that the new key has PK3+ stamped on it.
2. Insert the current driver's key in the ignition and start the engine. If the engine will not start see your dealer/retailer for service.
3. After the engine has started, turn the key to LOCK/OFF, and remove the key.
4. Insert the second current driver's key in the ignition and start the engine within ten seconds of removing the previous key. If the engine will not start see your dealer/retailer for service.
5. After the engine has started, turn the key to LOCK/OFF, and remove the key. Insert the key to be programmed and turn it to ON within ten seconds of removing the previous key.

   The security light will turn off once the key has been programmed.
6. Repeat the Steps 1 through 5 if additional keys are to be programmed.

If the security light comes on and stays on while driving, you will be able to restart the engine if you turn it off. The theft-deterrent system, however, is not working properly and must be serviced by your dealer/retailer. Your vehicle is not protected by the theft-deterrent system at this time.

In an emergency, contact Roadside Assistance. See *Roadside Assistance Program on page 7-7*.

Do not leave the key or device that disarms or deactivates the theft deterrent system in the vehicle.

# Starting and Operating Your Vehicle

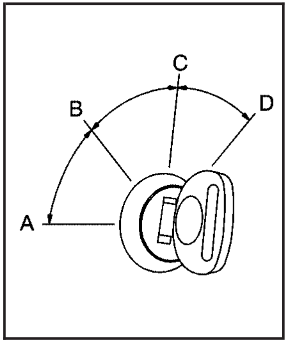
## New Vehicle Break-In

***Notice:*** **The vehicle does not need an elaborate break-in. But it will perform better in the long run if you follow these guidelines:**

- Keep your speed at 55 mph (88 km/h) or less for the first 500 miles (805 km).
- Do not drive at any one constant speed, fast or slow, for the first 500 miles (805 km). Do not make full-throttle starts. Avoid downshifting to brake or slow the vehicle.
- Avoid making hard stops for the first 200 miles (322 km) or so. During this time the new brake linings are not yet broken in. Hard stops with new linings can mean premature wear and earlier replacement. Follow this breaking-in guideline every time you get new brake linings.
- Do not tow a trailer during break-in. See *Towing a Trailer on page 4-48* for the trailer towing capabilities of the vehicle and more information.

Following break-in, engine speed and load can be gradually increased.

## Ignition Positions




The ignition switch has four different positions.

Press the brake pedal, and turn the ignition to ON/RUN to shift out of P (Park).

***Notice:*** **Using a tool to force the key to turn in the ignition could cause damage to the switch or break the key. Use the correct key, make sure it is all the way in, and turn it only with your hand. If the key cannot be turned by hand, see your dealer/retailer.**

**A (LOCK/OFF):** This position locks the ignition and transmission. The key can only be removed in LOCK/OFF.

The steering can bind with the wheels turned off center. If this happens, move the steering wheel from right to left while turning the key to ACC/ACCESSORY. If this doesn't work, then the vehicle needs service.

**B (ACC/ACCESSORY):** This is the position in which you can operate electrical accessories.

**C (ON/RUN):** This position can be used to operate the electrical accessories and to display some instrument panel warning and indicator lights. The switch stays in this position when the engine is running.

If you leave the key in the ACC/ACCESSORY or ON/RUN position with the engine off, the battery could be drained. You may not be able to start the vehicle if the battery is allowed to drain for an extended period of time.

**D (START):** This is the position that starts the engine. When the engine starts, release the key. The ignition switch returns to ON/RUN for driving.

A warning tone will sound when the driver door is opened, the ignition is in ACC/ACCESSORY or LOCK/OFF and the key is in the ignition.

## Retained Accessory Power (RAP)

These vehicle accessories can be used for up to 20 minutes after the engine is turned off:

- Audio System
- Power Windows
- Overhead Console
- Sunroof (if equipped)

These features will work when the key is in ON/RUN or ACC/ACCESSORY. Once the key is turned from ON/RUN to LOCK/OFF, these features continue to work for up to 20 minutes, or until a door is opened.

## Starting the Engine

Move the shift lever to P (Park) or N (Neutral). The engine will not start in any other position. To restart the engine when the vehicle is already moving, use N (Neutral) only.

***Notice:*** **Do not try to shift to P (Park) if the vehicle is moving. If you do, you could damage the transmission. Shift to P (Park) only when the vehicle is stopped.**

### Starting Procedure

1. With your foot off the accelerator pedal, turn the ignition to START. When the engine starts, let go of the key. The idle speed will slow down as the engine warms. Do not race the engine immediately after starting it. Operate the engine and transmission gently to allow the oil to warm up and lubricate all moving parts.

   The vehicle has a Computer-Controlled Cranking System. This feature assists in starting the engine and protects components. If the ignition key is turned to the START position, and then released when the engine begins cranking, the engine will continue cranking for a few seconds or until the vehicle starts. If the engine does not start and the key is held in START, cranking will be stopped after 15 seconds to prevent cranking motor damage. To prevent gear damage, this system also prevents cranking if the engine is already running. Engine cranking can be stopped by turning the ignition switch to the ACC/ACCESSORY or LOCK/OFF position.

***Notice:*** **Cranking the engine for long periods of time, by returning the key to the START position immediately after cranking has ended, can overheat and damage the cranking motor, and drain the battery. Wait at least 15 seconds between each try, to let the cranking motor cool down.**

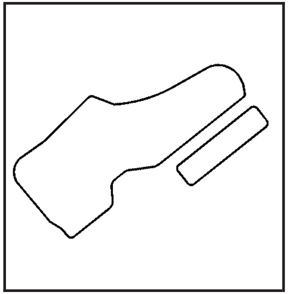
2. If the engine does not start after 5-10 seconds, especially in very cold weather (below 0°F or –18°C), it could be flooded with too much gasoline. Try pushing the accelerator pedal all the way to the floor and holding it there as you hold the key in START for up to a maximum of 15 seconds. Wait at least 15 seconds between each try, to allow the cranking motor to cool down. When the engine starts, let go of the key and accelerator. If the vehicle starts briefly but then stops again, repeat these steps. This clears the extra gasoline from the engine. Do not race the engine immediately after starting it. Operate the engine and transmission gently until the oil warms up and lubricates all moving parts.

***Notice:*** **The engine is designed to work with the electronics in the vehicle. If you add electrical parts or accessories, you could change the way the engine operates. Before adding electrical equipment, check with your dealer/retailer. If you do not, the engine might not perform properly. Any resulting damage would not be covered by the vehicle warranty.**

## Adjustable Throttle and Brake Pedal

If the vehicle has this feature, you can change the position of the throttle and brake pedals.

The vehicle must be in P (Park) for this feature to operate.



The switch used to adjust the pedals is located on the steering column.

Press the switch forward or backward to move the pedals closer or farther away from you.

# Engine Coolant Heater

The engine coolant heater can provide easier starting and better fuel economy during engine warm-up in cold weather conditions at or below 0°F (–18°C). Vehicles with an engine coolant heater should be plugged in at least four hours before starting the vehicle. An internal thermostat in the plug-end of the cord may exist which will prevent engine coolant heater operation at temperatures above 0°F (–18°C).

## To Use the Engine Coolant Heater

1. Turn off the engine.
2. Open the hood and unwrap the electrical cord. The cord is located on the driver side of the engine compartment next to the battery box facing the engine.
3. Plug it into a normal, grounded 110-Volt AC outlet.

**⚠ CAUTION:**

Plugging the cord into an ungrounded outlet could cause an electrical shock. Also, the wrong kind of extension cord could overheat and cause a fire. You could be seriously injured. Plug the cord into a properly grounded three-prong 110-volt AC outlet. If the cord will not reach, use a heavy-duty three-prong extension cord rated for at least 15 amps.

4. Before starting the engine, be sure to unplug and store the cord as it was before to keep it away from moving engine parts and prevent damage.

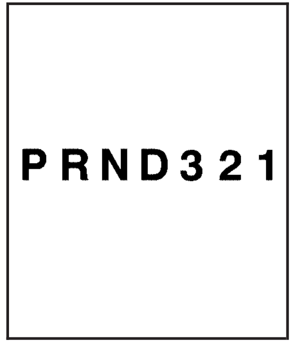
The length of time the heater should remain plugged in depends on several factors. Ask a dealer/retailer in the area where you will be parking the vehicle for the best advice on this.

# Active Fuel Management™

The vehicle's V8 engine may have Active Fuel Management™. This system allows the engine to operate on either all or half of its cylinders, depending on driving conditions.

When less power is required, such as cruising at a constant vehicle speed, the system will operate in the half cylinder mode, allowing the vehicle to achieve better fuel economy. When greater power is required, such as accelerating from a stop, passing, or merging onto a freeway, the system will maintain full-cylinder operation.

# Automatic Transmission Operation




There are several different positions for the gear shift lever.

**P (Park):** This position locks the rear wheels. It is the best position to use when you start the engine because the vehicle cannot move easily.

### ⚠ CAUTION:

It is dangerous to get out of the vehicle if the shift lever is not fully in P (Park) with the parking brake firmly set. The vehicle can roll.

Do not leave the vehicle when the engine is running unless you have to. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, always set the parking brake and move the shift lever to P (Park). See *Shifting Into Park on page 2-35*. If you are pulling a trailer, see *Towing a Trailer on page 4-48*.

### ⚠ CAUTION:

If you have four-wheel drive, the vehicle will be free to roll — even if the shift lever is in P (Park) — if the transfer case is in Neutral. So, be sure the transfer case is in a drive gear — not in Neutral. See *Four-Wheel Drive on page 2-30*. See *Shifting Into Park on page 2-35*.

Make sure the shift lever is fully in P (Park) before starting the engine. The vehicle has an automatic transmission shift lock control system. You have to fully apply the brake pedal, then press the shift lever button before you can shift from P (Park) when the ignition key is in ON/RUN. If you cannot shift out of P (Park), ease pressure on the shift lever and push the shift lever all the way into P (Park) as you maintain brake application. Then press the shift lever button and move the shift lever into another gear. See *Shifting Out of Park on page 2-37*.

**R (Reverse):** Use this gear to back up.

***Notice:*** **Shifting to R (Reverse) while the vehicle is moving forward could damage the transmission. The repairs would not be covered by the vehicle warranty. Shift to R (Reverse) only after the vehicle is stopped.**

To rock the vehicle back and forth to get out of snow, ice, or sand without damaging the transmission, see *If Your Vehicle is Stuck in Sand, Mud, Ice, or Snow on page 4-32*.

**N (Neutral):** In this position, the engine does not connect with the wheels. To restart the engine when the vehicle is already moving, use N (Neutral) only.

**⚠ CAUTION:**

Shifting into a drive gear while the engine is running at high speed is dangerous. Unless your foot is firmly on the brake pedal, the vehicle could move very rapidly. You could lose control and hit people or objects. Do not shift into a drive gear while the engine is running at high speed.

***Notice:*** **Shifting out of P (Park) or N (Neutral) with the engine running at high speed may damage the transmission. The repairs would not be covered by the vehicle warranty. Be sure the engine is not running at high speed when shifting the vehicle.**

**D (Drive):** This position is for normal driving. It provides the best fuel economy. If you need more power for passing, and you are:

- Going less than about 35 mph (55 km/h), push the accelerator pedal about halfway down.
- Going about 35 mph (55 km/h) or more, push the accelerator all the way down.

  The vehicle will shift down to the next gear and have more power.

Downshifting the transmission in slippery road conditions could result in skidding, see “Skidding” under *Loss of Control on page 4-12*.

D (Drive) can be used when towing a trailer, carrying a heavy load, driving on steep hills, or for off-road driving. You may want to shift the transmission to 3 (Third) or, if necessary, a lower gear selection if the transmission shifts too often.

**3 (Third):** This position is also used for normal driving. It reduces vehicle speed more than D (Drive) without using the brakes. You might choose 3 (Third) instead of D (Drive) when driving on hilly, winding roads, when towing a trailer, so there is less shifting between gears and when going down a steep hill.

To shift to the 3 (Third) position, you must first press the large button on the shift handle. While the button is pressed, move the shifter in the 3 (Third) position.

**2 (Second):** This position reduces vehicle speed even more than 3 (Third) without using the brakes. You can use 2 (Second) on hills. It can help you control vehicle speed as you go down steep mountain roads, as you use your brakes off and on.

To shift to the 2 (Second) position, you must first press the large button on the shift handle. While the button is pressed, move the shifter in the 2 (Second) position.

You can also use 2 (Second) for starting the vehicle from a stop on slippery road surfaces.

**1 (First):** This position reduces vehicle speed even more than 2 (Second) without using the brakes. You can use it on very steep hills, or in deep snow or mud. If the shift lever is put in 1 (First) while the vehicle is moving forward, the transmission will not shift into first gear until the vehicle is going slowly enough.

To shift to the 1 (First) position, you must first press the large button on the shift handle. While the button is pressed, move the shifter in the 1 (First) position.

***Notice:*** **Spinning the tires or holding the vehicle in one place on a hill using only the accelerator pedal may damage the transmission. The repair will not be covered by the vehicle warranty. If you are stuck, do not spin the tires. When stopping on a hill, use the brakes to hold the vehicle in place.**

# Four-Wheel Drive

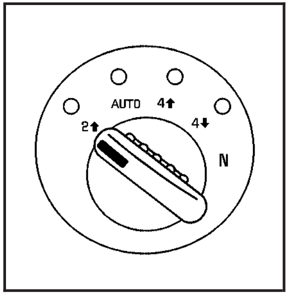
If the vehicle has four-wheel drive, the engine's driving power can be sent to all four wheels for extra traction. Read the following before using four-wheel drive, to become familiar with its operation. You should use Two-Wheel High for most normal driving conditions.

***Notice:*** **Driving on clean, dry pavement in Four-Wheel-Drive High or Four-Wheel-Drive Low for an extended period of time may cause premature wear on your vehicle's powertrain. Do not drive on clean, dry pavement in Four-Wheel-Drive High or Four-Wheel-Drive Low for extended periods of time.**

***Notice:*** **If you continually drive your vehicle with the transfer case in AUTO or Four-Wheel Drive, you could shorten the life of the transfer case or the Four-Wheel Drive system. The selector switch should be left in Two-Wheel Drive High mode. Only use AUTO and Four-Wheel Drive when you need extra traction such as in wet or slippery road conditions.**

# Automatic Transfer Case

If the vehicle has four-wheel drive, the transfer case knob is located to the right of the steering wheel on the instrument panel.




Use this knob to shift into and out of four-wheel drive.

**2 ↑ (Two-Wheel High):** This setting is for driving in most street and highway situations. The front axle is not engaged in two-wheel drive. This provides the best fuel economy.

**AUTO (Automatic Four-Wheel Drive):** This setting is ideal for use when road conditions are variable. When driving the vehicle in automatic four-wheel drive, the front axle is engaged, but the vehicle's power is sent to the rear wheels. When the vehicle senses a loss of traction, the system will automatically engage four-wheel drive. Driving in this mode results in slightly lower fuel economy than Two-Wheel High.

**4 ↑ (Four-Wheel High):** This setting should be used when you need extra traction, such as on snowy or icy roads or in most off-road situations. This setting also engages the front axle to help drive the vehicle.

**4 ↓ (Four-Wheel Low):** This setting also engages the front axle and delivers extra torque. It sends maximum power to all four wheels. You might choose this setting if you are driving off-road in deep sand, deep mud, and climbing or descending steep hills.

**⚠ CAUTION:**

Shifting the transfer case to Neutral can cause the vehicle to roll even if the transmission is in P (Park). You or someone else could be seriously injured. Be sure to set the parking brake before placing the transfer case in Neutral. See *Parking Brake on page 2-34*.

**Neutral:** Shift the vehicle's transfer case to Neutral only when towing the vehicle. See *Recreational Vehicle Towing on page 4-40* for more information.

An indicator light in the knob will show you which position the transfer case is in. The indicator lights will come on briefly when you turn on the ignition and one will stay on. If the lights do not come on, you should take the vehicle to your dealer/retailer for service. An indicator light will flash while shifting the transfer case. It will stay on when the shift is complete. If the transfer case cannot make a requested shift, it will return to the last chosen setting.

If the service Four-Wheel Drive Warning Light on the instrument panel cluster stays on, you should take the vehicle to your dealer/retailer for service. See *Service Four-Wheel Drive Warning Light on page 3-45* for further information.

### Shifting Into Four-Wheel High or Automatic Four-Wheel Drive

Turn the knob to Four-Wheel High or Automatic Four-Wheel Drive. This can be done at any speed unless you are shifting out of Four-Wheel Low. The indicator light will flash while shifting. It will remain on when the shift is complete.

### Shifting Into Two-Wheel High

Turn the knob to Two-Wheel High. This can be done at any speed unless you are shifting out of Four-Wheel Low.

### Shifting Into Four-Wheel Low

To shift to Four-Wheel Low, the vehicle's engine must be running and the vehicle must be stopped or moving less than 2 mph (3.2 km/h) with the transmission in N (Neutral). The preferred method for shifting into Four-Wheel Low is to have your vehicle moving 1 or 2 mph (1.6 to 3.2 km/h). Turn the knob to Four-Wheel Low. You must wait for the Four-Wheel Low indicator light to stop flashing and stay on before shifting the transmission into gear.

If you turn the knob to Four-Wheel Low when the vehicle is in gear and/or moving, the Four-Wheel Low indicator light will flash for 30 seconds and not complete the shift unless the vehicle is moving less than 2 mph (3.2 km/h) and the transmission is in N (Neutral). After 30 seconds, the transfer case will return to the setting last chosen.

### Shifting Out of Four-Wheel Low

To shift from Four-Wheel Low to Four-Wheel High, Auto Four-Wheel Drive, or Two-Wheel High, the vehicle must be stopped or moving less than 2 mph (3.2 km/h) with the transmission in N (Neutral) and the engine running. The preferred method for shifting out of Four-Wheel Low is to have your vehicle moving 1 or 2 mph (1.6 to 3.2 km/h). Turn the knob to Four-Wheel High, Auto Four-Wheel Drive, or Two-Wheel High. You must wait for the Four-Wheel High, Auto Four-Wheel Drive, or Two-Wheel High indicator light to stop flashing and stay off before shifting your transmission into gear.

If the knob is turned to Four Wheel-High, Auto Four-Wheel Drive, or Two-Wheel High when the vehicle is in gear and/or moving, the Four-Wheel High, Auto Four-Wheel Drive, or Two-Wheel High indicator light will flash for 30 seconds. It will not complete the shift unless the vehicle is moving less than 2 mph (3.2 km/h) with the transmission in N (Neutral).

## Shifting into Neutral

Before shifting the transfer case to Neutral, first make sure the vehicle is parked so that it will not roll.

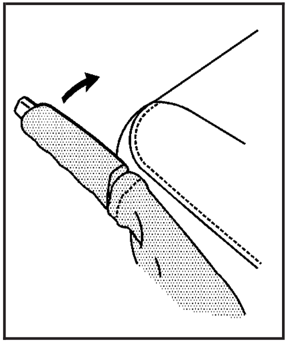
1. Set the parking brake.
2. Start the vehicle.
3. Put the transmission in N (Neutral).
4. Shift the transfer case to Two-Wheel High.
5. Turn the transfer case knob all of the way past Four-Wheel Low and hold it there for a minimum of 10 seconds. The Neutral indicator light will come on.
6. With the engine running, shift the transmission to R (Reverse) for one second, then shift the transmission to D (Drive) for one second, to ensure that the transfer case is in Neutral.
7. Turn the engine off, by turning the key to ACC/ACCESSORY.
8. Place the transmission shift lever in P (Park).
9. Turn the ignition to LOCK/OFF.

## Shifting Out of Neutral

To shift the transfer case out of Neutral, do the following:

1. Set the parking brake and apply the regular brake pedal.
2. Turn the ignition to ON/RUN with the engine off.
3. Put the transmission in N (Neutral).
4. Turn the transfer case knob to the desired position (Two-Wheel High, Four-Wheel High, or Auto Four-Wheel Drive).
5. After the transfer case has shifted out of Neutral, the indicator light will go out.
6. Release the parking brake.
7. Start the engine and shift the transmission to the desired position.

## Parking Brake



To set the parking brake, hold the regular brake pedal down with your foot and pull up on the parking brake lever located between the seats.

To release the parking brake, hold the regular brake pedal down. Pull the parking brake lever up until you can press in the button at the end of the lever. Hold the button in as you move the parking brake lever all the way down.

If the ignition is on, the brake system warning light on the instrument panel cluster will come on. See *Brake System Warning Light on page 3-36*.

***Notice:*** **Driving with the parking brake on can overheat the brake system and cause premature wear or damage to brake system parts. Verify that the parking brake is fully released and the brake warning light is off before driving.**

If you are towing a trailer and you must park on a hill, see *Towing a Trailer on page 4-48*.

## Shifting Into Park

**⚠ CAUTION:**

It can be dangerous to get out of the vehicle if the shift lever is not fully in P (Park) with the parking brake firmly set. The vehicle can roll. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, use the steps that follow. With four-wheel drive, the vehicle will be free to roll — even if the shift lever is in P (Park) — if your transfer case is in Neutral. So, be sure the transfer case is in a drive gear — not in Neutral. See *Four-Wheel Drive on page 2-30*. Always put the shift lever fully in P (Park) with the parking brake firmly set. If you are pulling a trailer, see *Towing a Trailer on page 4-48*.

To shift into P (Park):

1. Hold the brake pedal down with your foot and set the parking brake.
2. Move the shift lever into P (Park) by pressing the button on the side of the shift lever and pushing the lever all the way toward the front of the vehicle.
3. Turn the ignition key to OFF/LOCK.
4. Remove the key and take it with you. You know the vehicle is in P (Park) if the key can be removed from the ignition.

## Leaving the Vehicle With the Engine Running

**⚠ CAUTION:**

It can be dangerous to leave the vehicle with the engine running. The vehicle could move suddenly if the shift lever is not fully in P (Park) with the parking brake firmly set.

If you have four-wheel drive, the vehicle will be free to roll – even if your lever is in P (Park) – if the transfer case is in Neutral. So be sure the transfer case is in a drive gear – not Neutral. See *Four-Wheel Drive on page 2-30*.

And, if you leave the vehicle with the engine running, it could overheat and even catch fire. You or others could be injured. Do not leave the vehicle with the engine running unless you have to.

If you have to leave the vehicle with the engine running, be sure the vehicle is in P (Park) and the parking brake is firmly set before you leave it. After you have moved the shift lever into P (Park), hold the regular brake pedal down. Then, see if you can move the shift lever away from P (Park) without first pressing the button on the console shift lever. If you can, it means that the shift lever was not fully locked into P (Park).

## Torque Lock

If you are parking on a hill and you do not shift your transmission into P (Park) properly, the weight of the vehicle may put too much force on the parking pawl in the transmission. You may find it difficult to pull the shift lever out of P (Park). This is called “torque lock.” To prevent torque lock, set the parking brake and then shift into P (Park) properly before you leave the driver seat. To find out how, see *Shifting Into Park on page 2-35*.

When you are ready to drive, move the shift lever out of P (Park) before you release the parking brake.

If torque lock does occur, you may need to have another vehicle push yours a little uphill to take some of the pressure from the parking pawl in the transmission, so you can pull the shift lever out of P (Park).

## Shifting Out of Park

The vehicle has an electronic shift lock release system. The shift lock release is designed to:

- Prevent ignition key removal unless the shift lever is in P (Park) with the shift lever button fully released, and
- Prevent movement of the shift lever out of P (Park), unless the ignition is in ON/RUN and the regular brake pedal is applied.

The shift lock release is always functional except in the case of an uncharged or low voltage (less than 9 volt) battery.

If the vehicle has an uncharged battery or a battery with low voltage, try charging or jump starting the battery. See *Jump Starting on page 5-43* for more information.

To shift out of P (Park) use the following:

1. Apply the brake pedal.
2. Press the shift lever button.
3. Move the shift lever to the desired position.

If you still are unable to shift out of P (Park):

1. Fully release the shift lever button.
2. Hold the brake pedal down and press the shift lever button again.
3. Move the shift lever to the desired position.

If you still cannot move the shift lever from P (Park), consult your dealer/retailer or a professional towing service.

## Parking Over Things That Burn

**⚠ CAUTION:**

Things that can burn could touch hot exhaust parts under the vehicle and ignite. Do not park over papers, leaves, dry grass, or other things that can burn.

## Engine Exhaust

**⚠ CAUTION:**

Engine exhaust contains Carbon Monoxide (CO) which cannot be seen or smelled. Exposure to CO can cause unconsciousness and even death.

Exhaust may enter the vehicle if:

- The vehicle idles in areas with poor ventilation (parking garages, tunnels, deep snow that may block underbody airflow or tail pipes).
- The exhaust smells or sounds strange or different.
- The exhaust system leaks due to corrosion or damage.

CAUTION: (Continued)

**CAUTION: (Continued)**

- The vehicle's exhaust system has been modified, damaged or improperly repaired.
- There are holes or openings in the vehicle body from damage or after-market modifications that are not completely sealed.

If unusual fumes are detected or if it is suspected that exhaust is coming into the vehicle:

- Drive it only with the windows completely down.
- Have the vehicle repaired immediately.

Never park the vehicle with the engine running in an enclosed area such as a garage or a building that has no fresh air ventilation.

## Running the Vehicle While Parked

It is better not to park with the engine running. But if you ever have to, here are some things to know.

**⚠ CAUTION:**

Idling a vehicle in an enclosed area with poor ventilation is dangerous. Engine exhaust may enter the vehicle. Engine exhaust contains Carbon Monoxide (CO) which cannot be seen or smelled. It can cause unconsciousness and even death. Never run the engine in an enclosed area that has no fresh air ventilation. For more information, see *Engine Exhaust on page 2-38*.

**⚠ CAUTION:**

It can be dangerous to get out of the vehicle if the automatic transmission shift lever is not fully in P (Park) with the parking brake firmly set.

CAUTION: (Continued)

**CAUTION: (Continued)**

Thevehicle can roll. Do not leave the vehicle when the engine is running unless you have to. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, always set the parking brake and move the shift lever to P (Park).

**⚠ CAUTION:**

If the vehicle has four-wheel drive, it will be free to roll — even if the shift lever is in P (Park) — if the transfer case is in N (Neutral). So be sure the transfer case is in a drive gear — not in N (Neutral). See *Four-Wheel Drive on page 2-30*.

Follow the proper steps to be sure the vehicle will not move. See *Shifting Into Park on page 2-35*.

If pulling a trailer, see *Towing a Trailer on page 4-48*.

# Mirrors

## Manual Rearview Mirror

Adjust the mirror to see clearly behind your vehicle. Hold the mirror in the center to move it up or down and side to side. The day/night adjustment lets you adjust the mirror to avoid glare from the lamps behind you. Move the lever to the right for nighttime use and to the left for daytime use.

Vehicles with OnStar® have three contol buttons located at the bottom of the mirror. See your dealer/retailer for more information on the system and how to subscribe to OnStar®. See *OnStar® System on page 2-45* for more information on the services OnStar® provides.

## Automatic Dimming Rearview Mirror

The vehicle may have an automatic-dimming rearview mirror with a compass and/or temperature display.

See *Compass on page 2-42* for more information about the compass display. See “Temperature Display” after in this section.

Vehicles with OnStar® have three control buttons located at the bottom of the mirror. See your dealer/retailer for more information on the system and how to subscribe to OnStar®. See *OnStar® System on page 2-45* for more information on the services OnStar® provides.

⏻ **(On/Off):** Press to turn the dimming feature on or off.

**TEMP (Temperature):** Press to turn the temperature display on or off.

### Automatic Dimming Mirror Operation

Automatic dimming reduces the glare of lights from behind the vehicle. The dimming feature comes on and the indicator light illuminates each time the vehicle is started.

## Temperature Display

Press ⏻ or depending on the mirror, press TEMP to turn the temperature display on or off.

To adjust between Fahrenheit and Celsius:

1. Press and hold ⏻ or depending on the mirror, press TEMP until either a flashing F or C appears.
2. Press ⏻ or TEMP again to change the display to the desired unit of measurement. After approximately four seconds of inactivity, the new unit locks in and the display returns.

If an abnormal temperature reading is displayed for an extended period of time, please consult your dealer/retailer. Under certain circumstances, a delay in updating the temperature is normal.

## Passenger Airbag Indicator

The vehicle may be equipped with a passenger airbag indicator, on the mirror glass, just above the buttons. If the vehicle has this feature, the mirror displays the word ON, or an airbag symbol in Canada, when the passenger airbag is enabled. For more information, see *Passenger Sensing System on page 1-63*.

## Cleaning the Mirror

Do not spray glass cleaner directly on the mirror. Use a soft towel dampened with water.

# Compass

## Compass Operation

There is a compass display in the upper right corner of the mirror.

Press ⏻ or depending on the mirror, press COMP to turn the compass on or off.

## Compass Calibration

The compass may need calibration if:

- After several seconds, the display does not show a compass heading (N for North, for example), there may be a strong magnetic field interfering with the compass. Interference can be caused by a magnetic antenna mount, magnetic note pad holder or a similar magnetic item.
- The compass does not display the correct heading and the compass zone variance is set correctly.

In order to calibrate, CAL must be displayed in the mirror compass windows. If CAL is not displayed, press and hold ⏻ or depending on the mirror, press COMP until CAL displays.

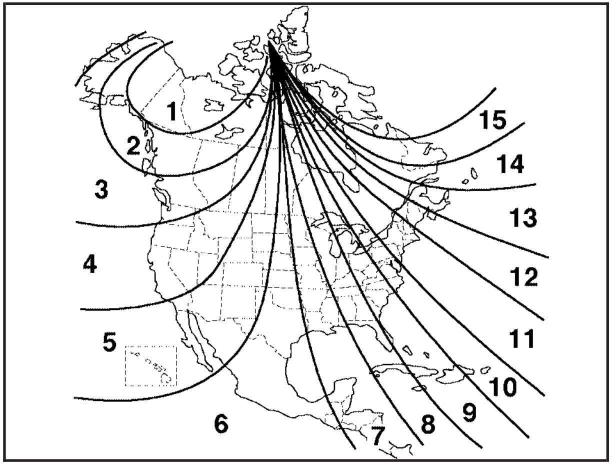
The compass can be calibrated by driving the vehicle in circles at 5 mph (8 km/h) or less until the display reads a direction.

## Compass Variance

The mirror is set to zone eight. If you do not live in zone eight or drive out of the area, the compass variance needs to be changed to the appropriate zone.

To adjust for compass variance:

1. Find your current location and variance zone number on the following zone map.




2. Press and hold ⏻ or depending on the mirror, press COMP until a Z and/or a zone number displays. The compass is now in zone mode.

3. Keep pressing ⏻ until the desired zone number displays. Release the button. After several seconds of inactivity, the new zone number locks in and the compass display returns.

4. Calibrate the compass as previously described.

## Outside Manual Mirrors

Adjust the outside rearview mirrors to see a little of the side of your vehicle, and the area beside your vehicle.

Manually fold the mirrors inward to prevent damage when going through an automatic car wash. To fold, push the mirror toward the vehicle. Push the mirror outward, to return to its original position.

## Outside Power Mirrors

Vehicles with outside power mirrors have controls located on the driver door.

To adjust the mirrors:

1. Turn the control knob left or right to select the driver's or passenger mirror.
2. Move the control knob to the left or right or up or down to position the mirror to see a little of the outside of the vehicle.
3. After adjusting the position of the mirrors, turn the knob to the center off position so that the mirrors do not move.

If the end of travel position in any direction of the mirror is reached, it will enter a ratcheting mode. This action is harmless. It is a warning that the mirror can go no further. To stop this action, back the mirror up by moving the knob in the opposite direction.

Manually fold the mirrors inward to prevent damage when going through an automatic car wash. To fold, push the mirrors toward the vehicle. To return the mirrors to their original position, push outward.

## Outside Convex Mirror

**⚠ CAUTION:**

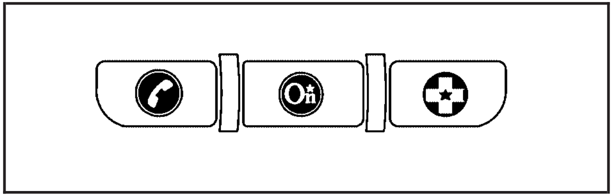
A convex mirror can make things (like other vehicles) look farther away than they really are. If you cut too sharply into the right lane, you could hit a vehicle on the right. Check the inside mirror or glance over your shoulder before changing lanes.

The passenger side mirror is convex shaped. A convex mirror's surface is curved so more can be seen from the driver seat.

## Outside Heated Mirrors

**(Rear Window Defogger):** Press to heat the mirrors. See "Rear Window Defogger" under *Dual Climate Control System on page 3-20* or *Dual Automatic Climate Control System on page 3-22* for more information.

# OnStar® System



OnStar uses several innovative technologies and live advisors to provide a wide range of safety, security, information, and convenience services. If the airbags deploy, the system is designed to make an automatic call to OnStar Emergency advisors who can request emergency services be sent to your location. If the keys are locked in the vehicle, call OnStar at 1-888-4-ONSTAR to have a signal sent to unlock the doors. OnStar Hands-Free Calling, including 30 trial minutes good for 60 days, is available on most vehicles. OnStar Turn-by-Turn Navigation service, with one trial route, is available on most vehicles. Press the OnStar button to have an OnStar advisor contact Roadside Service.

OnStar service is provided subject to the OnStar Terms and Conditions included in the OnStar Subscriber glove box literature.

Some services such as Remote Door Unlock or Stolen Vehicle Location Assistance may not be available until the owner of the vehicle registers with OnStar. After the first prepaid year, contact OnStar to select a monthly or annual subscription payment plan. If a payment plan is not selected, the OnStar system and all services, including airbag notification and emergency services, may be deactivated and no longer available. For more information visit onstar.com (U.S.) or onstar.ca (Canada), or press the OnStar button to speak with an advisor.

Not all OnStar services are available on all vehicles. To check if this vehicle is able to provide the services described below, or for a full description of OnStar services and system limitations, see the OnStar Owner's Guide in the glove box or visit onstar.com (U.S.) or onstar.ca (Canada), contact OnStar at 1-888-4-ONSTAR (1-888-466-7827) or TTY 1-877-248-2080, or press the OnStar button to speak with an OnStar advisor 24 hours a day, 7 days a week.

## OnStar Services Available with the Safe & Sound Plan

- Automatic Notification of Airbag Deployment
- Advanced Automatic Crash Notification (AACN) (If equipped)
- Link to Emergency Services
- Roadside Assistance
- Stolen Vehicle Location Assistance
- Remote Door Unlock/Vehicle Alert
- OnStar Vehicle Diagnostic Email
- GM Goodwrench On Demand Diagnostics
- OnStar Hands-Free Calling with 30 trial minutes
- OnStar Virtual Advisor (U.S. Only)

## OnStar Services Included with Directions & Connections Plan

- All Safe and Sound Plan Services
- OnStar Turn-by-Turn Navigation (If equipped) or Driving Directions - Advisor delivered
- RideAssist
- Information and Convenience Services

## OnStar Hands-Free Calling

OnStar Hands-Free Calling allows eligible OnStar subscribers to make and receive calls using voice commands. Hands-Free Calling is fully integrated into the vehicle, and can be used with OnStar Pre-Paid Minute Packages. Most vehicles include 30 trial minutes good for 60 days. Hands-Free Calling can also be linked to a Verizon Wireless service plan in the U.S. or a Bell Mobility service plan in Canada, depending on eligibility. To find out more, refer to the OnStar Owner's Guide in the vehicle's glove box, visit onstar.com or onstar.ca, or speak with an OnStar advisor by pressing the OnStar button or calling 1-888-4-ONSTAR (1-888-466-7827).

## OnStar Turn-by-Turn Navigation

Vehicles with the OnStar Turn-by-Turn Navigation system can provide voice-guided driving directions. Press the OnStar button to have an OnStar advisor locate a business or address and download driving directions to the vehicle. Voice-guided directions to the desired destination will play through the audio system speakers. See the OnStar Owner's Guide for more information.

## OnStar Virtual Advisor

OnStar Virtual Advisor is a feature of OnStar Hands-Free Calling that uses minutes to access location-based weather, local traffic reports, and stock quotes. Press the phone button and give a few simple voice commands to browse through the various topics. See the OnStar Owner's Guide for more information. This feature is only available in the continental U.S.

## OnStar Steering Wheel Controls

This vehicle may have a Talk/Mute button that can be used to interact with OnStar Hands-Free Calling. See *Audio Steering Wheel Controls on page 3-109* for more information.

On some vehicles, the mute button can be used to dial numbers into voice mail systems, or to dial phone extensions. See the OnStar Owner's Guide for more information.

## How OnStar Service Works

The OnStar system can record and transmit vehicle information. This information is automatically sent to an OnStar Call Center when the OnStar button is pressed, the emergency button is pressed, or if the airbags or AACN system deploy. This information usually includes the vehicle's GPS location and, in the event of a crash, additional information regarding the crash that the vehicle was involved in (e.g. the direction from which the vehicle was hit). When the Virtual Advisor feature of OnStar Hands-Free Calling is used, the vehicle also sends OnStar the vehicle's GPS location so they can provide services where it is located.

OnStar service cannot work unless the vehicle is in a place where OnStar has an agreement with a wireless service provider for service in that area. OnStar service also cannot work unless the vehicle is in a place where the wireless service provider OnStar has hired for that area has coverage, network capacity and reception when the service is needed, and technology that is compatible with the OnStar service. Not all services are available everywhere, particularly in remote or enclosed areas, or at all times.

Location information about the vehicle is only available if the GPS satellite signals are unobstructed and available.

The vehicle must have a working electrical system, including adequate battery power, for the OnStar equipment to operate. There are other problems OnStar cannot control that may prevent OnStar from providing OnStar service at any particular time or place. Some examples are damage to important parts of the vehicle in a crash, hills, tall buildings, tunnels, weather or wireless phone network congestion.

### Your Responsibility

Increase the volume of the radio if the OnStar advisor cannot be heard. If the light next to the OnStar buttons is red, the system may not be functioning properly. Press the OnStar button and request a vehicle diagnostic. If the light appears clear (no light is appearing), your OnStar subscription has expired and all services have been deactivated. Press the OnStar button to confirm that the OnStar equipment is active.

## Universal Home Remote System

The Universal Home Remote System provides a way to replace up to three hand-held Radio-Frequency (RF) transmitters used to activate devices such as garage door openers, security systems, and home lighting.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

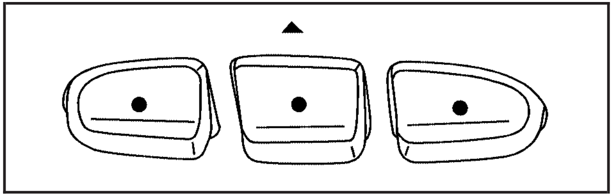
1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

This device complies with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference received, including interference that may cause undesired operation of the device.

Changes or modifications to this system by other than an authorized service facility could void authorization to use this equipment.

## Universal Home Remote System Operation (With One Triangular LED)



If there is one triangular Light Emitting Diode (LED) indicator light above the Universal Home Remote buttons, follow the instructions below.

This system provides a way to replace up to three remote control transmitters used to activate devices such as garage door openers, security systems, and home automation devices.

Do not use the Universal Home Remote with any garage door opener that does not have the stop and reverse feature. This includes any garage door opener model manufactured before April 1, 1982.

Read the instructions completely before attempting to program the Universal Home Remote. Because of the steps involved, it may be helpful to have another person available to assist you in the programming the Universal Home Remote.

Keep the original hand-held transmitter for use in other vehicles as well as for future Universal Home Remote programming. It is also recommended that upon the sale of the vehicle, the programmed Universal Home Remote buttons should be erased for security purposes. See “Erasing Universal Home Remote Buttons” later in this section.

When programming a garage door, park outside of the garage. Park directly in line with and facing the garage door opener motor-head or gate motor-head. Be sure that people and objects are clear of the garage door or gate that is being programmed.

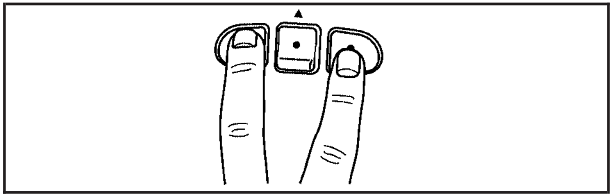
It is recommended that a new battery be installed in your hand-held transmitter for quicker and more accurate transmission of the radio-frequency signal.

## Programming the Universal Home Remote System

For questions or help programming the Universal Home Remote System, call 1-800-355-3515 or go to www.homelink.com.

Programming a garage door opener involves time-sensitive actions, so read the entire procedure before starting. Otherwise, the device will time out and the procedure will have to be repeated.

To program up to three devices:



1. From inside the vehicle, press and hold down the two outside buttons at the same time, releasing only when the Universal Home Remote indicator light begins to flash, after 20 seconds. This step will erase the factory settings or all previously programmed buttons.

   Do not hold down the buttons for longer than 30 seconds and do not repeat this step to program the remaining two Universal Home Remote buttons.

2. Hold the end of your hand-held transmitter about 1 to 3 inches (3 to 8 cm) away from the Universal Home Remote buttons while keeping the indicator light in view. The hand-held transmitter was supplied by the manufacturer of your garage door opener receiver (motor head unit).
3. At the same time, press and hold both the Universal Home Remote button to be used to control the garage door and the hand-held transmitter button. Do not release the Universal Home Remote button or the hand-held transmitter button until Step 4 has been completed.

   Some entry gates and garage door openers may require substitution of Step 3 with the procedure noted in “Gate Operator and Canadian Programming” later in this section.

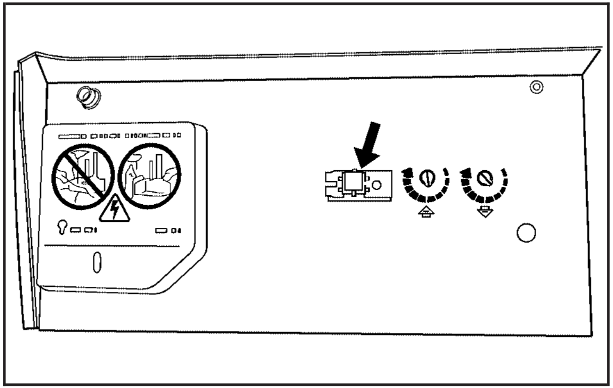
4. The indicator light on the Universal Home Remote will flash slowly at first and then rapidly after Universal Home Remote successfully receives the frequency signal from the hand-held transmitter. Release both buttons.

5. Press and hold the newly-trained Universal Home Remote button and observe the indicator light.

   If the indicator light stays on continuously, the programming is complete and the garage door should move when the Universal Home Remote button is pressed and released. There is no need to continue programming Steps 6 through 8.

   If the Universal Home Remote indicator light blinks rapidly for two seconds and then turns to a constant light, continue with the programming Steps 6 through 8.

   It may be helpful to have another person assist with the remaining steps.



6. After Steps 1 through 5 have been completed, locate inside the garage the garage door opener receiver (motor-head unit). Locate the “Learn” or “Smart” button. The name and color of the button may vary by manufacturer.

7. Firmly press and release the “Learn” or “Smart” button. After you press this button, you will have 30 seconds to complete Step 8.

8. Immediately return to the vehicle. Firmly press and hold the Universal Home Remote button, chosen in Step 3 to control the garage door, for two seconds, and then release it. If the garage door does not move, press and hold the same button a second time for two seconds, and then release it. Again, if the door does not move, press and hold the same button a third time for two seconds, and then release.

   The Universal Home Remote should now activate the garage door.

To program the remaining two Universal Home Remote buttons, begin with Step 2 of “Programming the Universal Home Remote System.” Do not repeat Step 1, as this will erase all previous programming from the Universal Home Remote buttons.

## Gate Operator and Canadian Programming

If you have questions or need help programming the Universal Home Remote System, call 1-800-355-3515 or go to www.homelink.com.

Canadian radio-frequency laws require transmitter signals to time out or quit after several seconds of transmission. This may not be long enough for Universal Home Remote to pick up the signal during programming. Similarly, some U.S. gate operators are manufactured to time out in the same manner.

If you live in Canada, or you are having difficulty programming a gate operator or garage door opener by using the “Programming Universal Home Remote” procedures, regardless of where you live, replace Step 3 under “Programming Universal Home Remote” with the following:

Continue to press and hold the Universal Home Remote button while you press and release every two seconds (cycle) the hand-held transmitter button until the frequency signal has been successfully accepted by the Universal Home Remote. The Universal Home Remote indicator light will flash slowly at first and then rapidly. Proceed with Step 4 under “Programming Universal Home Remote” to complete.

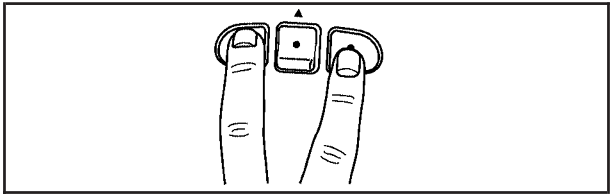
## Using Universal Home Remote

Press and hold the appropriate Universal Home Remote button for at least half of a second. The indicator light will come on while the signal is being transmitted.

## Erasing Universal Home Remote Buttons

The programmed buttons should be erased when the vehicle is sold or the lease ends.

To erase all programmed buttons on the Universal Home Remote device:



1. Press and hold down the two outside buttons until the indicator light begins to flash, after 20 seconds.
2. Release both buttons.

## Reprogramming a Single Universal Home Remote Button

To reprogram any of the three Universal Home Remote buttons, repeat the programming instructions earlier in this section, beginning with Step 2.

For help or information on the Universal Home Remote System, call the customer assistance phone number under *Customer Assistance Offices on page 7-6*.

# Storage Areas

## Glove Box

Lift the glove box handle up to open it. Use the key to lock and unlock the glove box.

## Overhead Console

Your vehicle may have this feature. The overhead console may include reading lamps, a Universal Home Remote and a sunroof switch. See *Sunroof on page 2-57* and *Universal Home Remote System on page 2-48* for more information.

## Center Console Storage

Pull the front lever on the center console while lifting the top to open it.

The console has cupholders on the front and rear of the storage compartment.

The console may also contain:

- Rear Seat Audio Controls
- Rear Seat Accessory Power Outlets
- Rear Climate Control

To open the center armrest compartment, lift the cover by pulling up on the latch handle located under the front edge of the armrest.

## Luggage Carrier

**⚠ CAUTION:**

If something is carried on top of the vehicle that is longer or wider than the luggage carrier — like paneling, plywood, or a mattress— the wind can catch it while the vehicle is being driven. This can cause a driver to lose control. The item being carried could be violently torn off, and this could cause a collision, and damage the vehicle. Items may be carried inside. Never carry something longer or wider than the luggage carrier on top of the vehicle.

If your vehicle has a luggage carrier, it will allow you to load things on top of your vehicle. The luggage carrier has side rails attached to the roof, places to use for tying things down and may have sliding crossrails. These let you load some other things on top of your vehicle, as long as they are not wider or longer than the luggage carrier.

To slide the crossrails to where you want them, pull up on the lever on each side of the crossrail. This releases the crossrail and allows you to slide it. When the crossrail is where you want it, press down on the levers to lock it into place.

***Notice:*** **Loading cargo on the luggage carrier that weighs more than 220 lbs (100 kg) or hangs over the rear or sides of the vehicle may damage your vehicle. Load cargo so that it rests on the slats as far forward as possible and against the side rails, making sure to fasten it securely.**

Do not exceed the maximum vehicle capacity when loading your vehicle. For more information on vehicle capacity and loading, see *Loading the Vehicle on page 4-33*.

To prevent damage or loss of cargo as you are driving, check now and then to make sure the luggage carrier is locked and cargo is still securely fastened.

When the luggage carrier is not in use, place the crossrails at the following positions for wind noise reduction. Place one crossrail at the rear most point of the vehicle and the other crossrail above the opening of the rear door.

## Rear Floor Storage Cover

**⚠ CAUTION:**

> If any removable convenience item is not secured properly, it can move around in a collision or sudden stop. People in the vehicle could be injured. Be sure to secure any such item properly.

The vehicle has a rear cargo area with a removable storage cover.

To remove the rear floor storage cover, do the following:

1. Press the latch release and lift up the latch handle.
2. Raise the cover slightly to unhook it.
3. Pull the cover towards the rear of the vehicle to release it from the forward mounting slots.

To reinstall the rear floor storage cover, reverse the previous steps. Make sure the cover is secure by applying slight pressure to the latch until it clicks.

## Convenience Net

For vehicles with a convenience net located in the rear, use it to store small loads as far forward as possible. The net should not be used to store heavy loads.

## Cargo Cover

If your vehicle has a cargo cover, you can use it to cover items in the cargo area of your vehicle.

To install the cargo cover:

1. Align the endcap with the pocket in the trim panel located behind the rear seat.
2. Squeeze the opposite endcap, align it with the pocket located on the opposite side of the trim panel and release.
3. Grasp the handle and unroll the cover.
4. Latch the posts into the sockets on the inside of the vehicle to secure it.

To remove the cargo cover, do the following:

1. Release the cover from the latch posts and carefully roll it back up.
2. Squeeze one endcap and remove it from the pocket in the trim panel.
3. Remove the cargo cover from the other endcap so that you can remove the shade from the vehicle.

**⚠ CAUTION:**

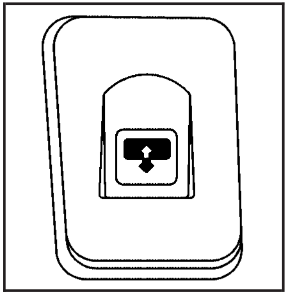
An improperly stored cargo cover could be thrown about the vehicle during a collision or sudden maneuver. Someone could be injured. If the cover is removed, always store it in the proper storage location. When it is replaced, always be sure that it is securely reattached.

## Cargo Tie Downs

Four cargo tie-downs are located in the rear compartment of the vehicle. The tie-downs can be used to secure small loads.

# Sunroof

The vehicle may have a power sliding sunroof. To open or close the sunroof, the ignition must be turned to ON/RUN, ACC/ACCESSORY, or Retained Accessory Power (RAP) must be active. See *Retained Accessory Power (RAP) on page 2-23*.



Press and release the back of the control in the overhead console to open the sunroof. Press the front of the control to close the sunroof.

Once the sunroof is closed, press the forward side of the control to open the sunroof to the vent position.

The sunroof has a sunshade which can be pulled forward to block sun rays. If it is in the closed position, it will open when the sunroof opens.

Do not keep the sunroof open for long periods of time while the vehicle is not in use. Debris can collect in the tracks, damage the sunroof operation and plug the water draining system.

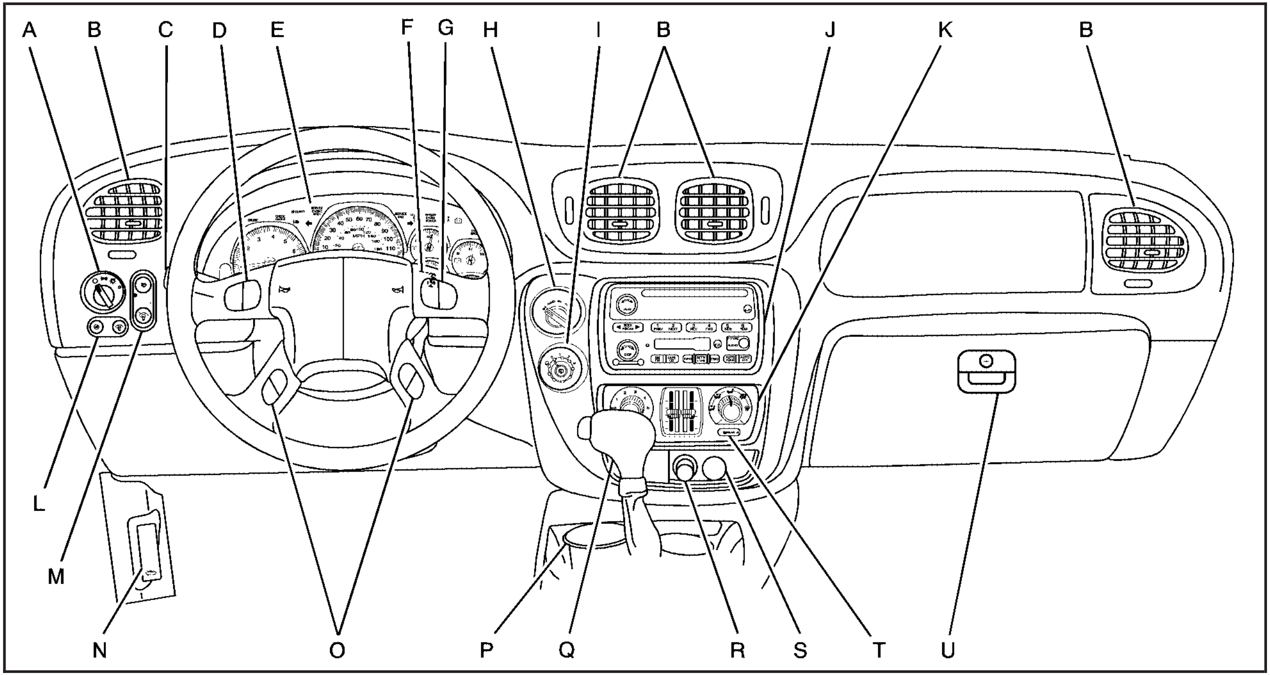
## ✍ NOTES

# Section 3 Instrument Panel

# Section 3 Instrument Panel

## ✍ NOTES

# Instrument Panel Overview



The main components of the instrument panel are the following:

A. *Headlamps on page 3-13*.

B. Air Outlets. See *Outlet Adjustment on page 3-26*.

C. *Turn Signal/Multifunction Lever on page 3-7*.

D. OnStar® and *Audio Steering Wheel Controls on page 3-109* (If Equipped).

E. *Instrument Panel Cluster on page 3-29*.

F. *Ignition Positions on page 2-22*.

G. *Audio Steering Wheel Controls on page 3-109* (If Equipped).

H. Transfer Case Controls. See “Automatic Transfer Case” under *Four-Wheel Drive on page 2-30*.

I. Rear Window Washer/Wiper. See *Windshield Washer on page 3-9*.

J. *Audio System(s) on page 3-62*.

K. *Dual Climate Control System on page 3-20*.

L. *Dome Lamp Override on page 3-17*.

M. *Fog Lamps on page 3-16* (If Equipped). *Instrument Panel Brightness on page 3-16*.

N. *Hood Release on page 5-11*.

O. Driver Information Center (DIC) Steering Wheel Controls (If Equipped). See *Driver Information Center (DIC) on page 3-47*.

P. Ashtray. See *Ashtray(s) and Cigarette Lighter on page 3-19*.

Q. Shift Lever and StabiliTrak® Button. See *Shifting Into Park on page 2-35* and *StabiliTrak® System on page 4-6*.

R. Lighter. See *Ashtray(s) and Cigarette Lighter on page 3-19*.

S. *Accessory Power Outlet(s) on page 3-19*.

T. Rear Window Defogger. See “Rear Window Defogger” under *Dual Climate Control System on page 3-20* and *Dual Automatic Climate Control System on page 3-22*.

U. *Glove Box on page 2-53*.

## Hazard Warning Flashers

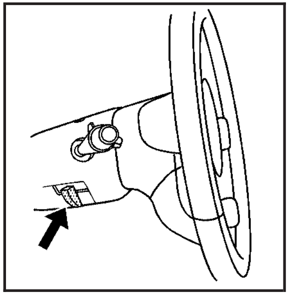
⚠ **(Hazard Warning Flasher):** Press this button located on top of the steering column, to make the front and rear turn signal lamps flash on and off. This warns others that you are having trouble. Press again to turn the flashers off.

When the hazard warning flashers are on, the vehicle's turn signals will not work.

## Horn

To sound the horn, press the horn symbols on the steering wheel pad.

## Tilt Wheel

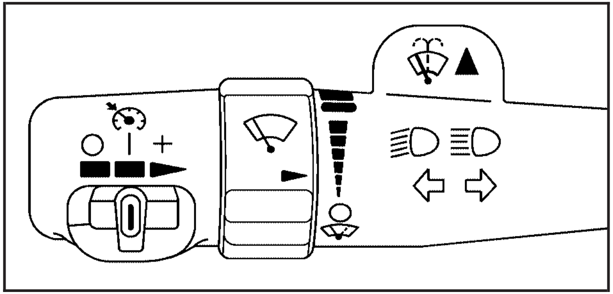


The tilt lever is on the outboard side of the steering column, under the turn signal lever.

Hold the steering wheel and pull the lever toward you to change the position, then release the lever to lock.

Do not adjust the steering wheel while driving.

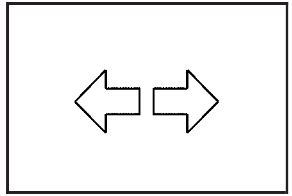
## Turn Signal/Multifunction Lever



The lever on the left side of the steering column includes the following:

- Turn and Lane Change Signals
- Headlamp High/Low-Beam Changer
- Flash-to-Pass Feature
- Windshield Wipers
- Windshield Washer
- Cruise Control

## Turn and Lane-Change Signals



An arrow on the instrument panel cluster flashes in the direction of the turn or lane change.

Move the lever all the way up or down to signal a turn.

Raise or lower the lever until the arrow starts to flash to signal a lane change. Hold it there until the lane change is complete.

The lever returns to its starting position when it is released.

If after signaling a turn or lane change the arrows flash rapidly or do not come on, a signal bulb could be burned out.

Have the bulbs replaced. If the bulb is not burned out, check the fuse. See *Fuses and Circuit Breakers on page 5-119*.

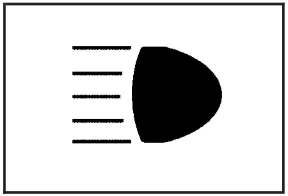
If the vehicle has a trailer towing option with added wiring for the trailer lamps, a turn signal flasher is used. With this flasher installed, the signal indicator flashes even if a turn signal bulb is burned out. Check the front and rear turn signal lamps regularly to make sure they are working.

### Turn Signal On Chime

A chime sounds if the turn signal has been on 3/4 of a mile (1.2 km). Move the turn signal lever to off.

## Headlamp High/Low-Beam Changer

To change the headlamps from low to high beam, push the lever toward the instrument panel. To return to low-beam headlamps, pull the multifunction lever toward you. Then release it.



When the high beams are on, this indicator light on the instrument panel cluster will also be on.

## Flash-to-Pass

This feature lets high-beam headlamps be used to signal to a driver in front of you that you want to pass. It works even if the headlamps are in the automatic position.

To use it, pull the turn signal lever toward you, then release it.

If the headlamps are in the automatic position or on low beam, the high-beam headlamps turn on. They will stay on as long as the lever is held toward you. The high-beam indicator on the instrument panel cluster comes on. Release the lever to return to normal operation.

## Windshield Wipers

**(Mist):** Turn the band to mist, for a single wiping cycle. Hold it there until the wipers start, then release it. The wipers will stop after one wipe. Hold the band on mist longer if more wipe cycles are needed.

**(Off):** Turns the wipers off.

**(Windshield Wipers):** Turn the band to control the windshield wipers.

: Turn the band to set the wiper speed for a long or short delay between wipes. The closer to the top of the lever, the shorter the delay time.

For steady wiping at low speed, turn the band away from you to the first solid band past the delay settings. For high-speed wiping, turn the band further, to the second solid band past the delay settings.

Be sure to clear ice and snow from the wiper blades before using them. If they are frozen to the windshield, gently loosen or thaw them. If they become worn or damaged, get new blades or blade inserts.

## Windshield Washer

**(Windshield Washer):** Press the windshield washer paddle to spray washer fluid on the windshield. The wipers will clear the window and then either stop or return to the preset speed.

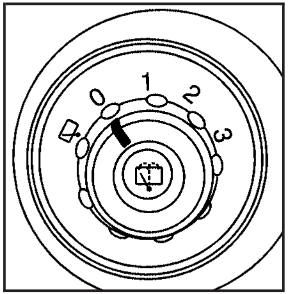
**CAUTION:**

In freezing weather, do not use your washer until the windshield is warmed. Otherwise the washer fluid can form ice on the windshield, blocking your vision.

## Rear Window Wiper/Washer

**⚠ CAUTION:**

In freezing weather, do not use your washer until the windshield is warmed. Otherwise the washer fluid can form ice on the windshield, blocking your vision.




The rear wiper/washer button is located to the right of the steering wheel on the instrument panel.

To turn the rear wiper on, turn the control to either 1, 2, or 3. For delayed wiping, turn the control to 1 or 2. For steady wiping, turn the control to 3. To turn the wiper off, turn the control to 0.

To wash the rear window, press located in the center of the control.

The rear window washer uses the same fluid bottle as the windshield washer. However, the rear window washer will run out of fluid before the windshield washer. If the windshield can be washed, but not the rear window, check the fluid level.

## Cruise Control

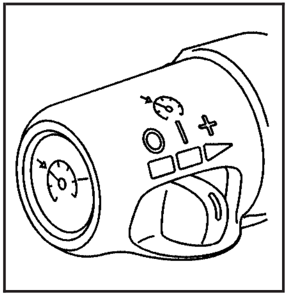
With cruise control, a speed of about 25 mph (40 km/h) or more can be maintained without keeping your foot on the accelerator. Cruise control does not work at speeds below about 25 mph (40 km/h).

If you apply the brakes, the cruise control shuts off.

**CAUTION:**

Cruise control can be dangerous where you cannot drive safely at a steady speed. So, do not use the cruise control on winding roads or in heavy traffic.

Cruise control can be dangerous on slippery roads. On such roads, fast changes in tire traction can cause excessive wheel slip, and you could lose control. Do not use cruise control on slippery roads.



The cruise controls are located on the end of the turn signal/multifunction lever.

○ **(Off):** Turns the cruise control system off and cancels the set speed memory.

| **(On):** Turns the cruise control system on.

+ **(Resume/Accelerate):** Resume a set speed or to accelerate.

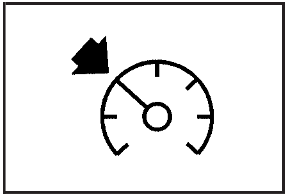
**(Set):** Press this button, located at the end of the lever, to set a speed.

**CAUTION:**

If you leave your cruise control on when you are not using cruise, you might hit a button and go into cruise when you do not want to. You could be startled and even lose control. Keep the cruise control switch off until you want to use cruise control.

## Setting Cruise Control

1. Move the cruise control switch to I.
2. Get up to the desired speed.
3. Press at the end of the lever and release it.
4. Take your foot off the accelerator pedal.



Some vehicles have a cruise light on the instrument panel cluster that will come on when the cruise control is engaged.

## Resuming a Set Speed

If the cruise control is set at a desired speed and then the brake is applied, this shuts off the cruise control. But it does not need to be reset.

Once the vehicle is going about 25 mph (40 km/h) or more, move the cruise control switch briefly from I to +.

The vehicle returns to the previously chosen speed and stays there.

If the switch is held on resume/accelerate, the vehicle keeps going faster until the switch is released or the brakes are applied. So unless you want the vehicle to go faster, do not hold the switch at resume/accelerate.

## Increasing Speed While Using Cruise Control

There are two ways to go to a higher speed:

- Use the accelerator pedal to get to the desired speed. Press at the end of the lever, then release the button and the accelerator pedal. The vehicle will now cruise at the higher speed.
- Move the cruise switch from I to +. Hold it there until the vehicle reaches the desired speed and then release the switch. To increase the vehicle speed in small amounts, move the switch briefly to resume/accelerate. Each time this is done, the vehicle goes about 1 mph (1.6 km/h) faster.

## Reducing Speed While Using Cruise Control

Press at the end of the lever until the desired speed is reached, then release it. Each time this is done, the vehicle goes about 1 mph (1.6 km/h) slower.

### Passing Another Vehicle While Using Cruise Control

Use the accelerator pedal to increase the vehicle speed. When you take your foot off the pedal, the vehicle will slow down to the cruise control speed set earlier.

### Using Cruise Control on Hills

How well the cruise control works on hills depends upon the vehicle speed, load and the steepness of the hills. When going up steep hills, you may want to step on the accelerator pedal to maintain your speed. When going downhill, you may have to brake or shift to a lower gear to keep your speed down. When the brakes are applied the cruise control will disengage.

### Ending Cruise Control

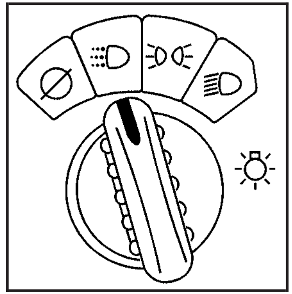
There are three ways to turn off the cruise control:

- Step lightly on the brake pedal.
- Move the cruise switch to ◯ .
- Shift the transmission to N (Neutral).

### Erasing Speed Memory

The cruise control set speed memory is erased when the cruise control or the ignition is turned off.

## Headlamps



The exterior lamps knob is located on the instrument panel.

∅ **(Off):** Turn the knob to this symbol and release it to turn off the Daytime Running Lamps (DRL) and the Automatic Headlamps (AHS). An indicator is lit when the position is selected. This position is not available for vehicles first sold in Canada.

**(Automatic DRL/AHS):** Places the system into automatic headlamp mode.

**(Parking Lamps):** Turns on the parking lamps, as well as the following:

- Sidemarker Lamps
- Taillamps
- License Plate Lamps
- Instrument Panel Lights

**(Headlamps):** Turns on the headlamps, as well as the following:

- Parking Lamps
- Sidemarker Lamps
- Taillamps
- License Plate Lamps
- Instrument Panel Lights

## Headlamps on Reminder

A reminder tone sounds when the headlamps or parking lamps are manually turned on, if the driver's door is open and the ignition is in LOCK/OFF or ACC/ACCESSORY. To turn the tone off, turn the knob all the way counterclockwise.

In the automatic mode, the headlamps turn off once the ignition key is in LOCK/OFF.

## Daytime Running Lamps (DRL)

Daytime Running Lamps (DRL) can make it easier for others to see the front of your vehicle during the day. Fully functional DRL are required on all vehicles first sold in Canada.

The DRL system makes the headlamps come on at reduced brightness when the following conditions are met:

- The ignition is on.
- The exterior lamps knob is in automatic headlamp mode.
- The light sensor detects daytime light.
- The transmission is not in P (Park).

When the DRL are on, only the headlamps will be on. The taillamps, sidemarker, instrument panel lights and other lamps will not be on.

When it begins to get dark, the headlamps automatically switch from DRL to the regular headlamps.

## Automatic Headlamp System

When it is dark enough outside, the Automatic Headlamp System turns on the headlamps when the vehicle is started and after the transmission has been shifted out of the P (Park) position. The headlamps, taillamps, sidemarker, and parking lamps will come on. The instrument panel lights and radio lights will also turn on at normal brightness. Once on, the system remains on during these conditions even if the vehicle is shifted back into P (Park).

The vehicle has a light sensor on the top of the instrument panel. Do not cover the sensor or the system may come on whenever the ignition is on and the vehicle is shifted out of the P (Park) position.

The system could also turn on the lamps when driving through a parking garage, heavy overcast weather or a tunnel. This is normal.

There is a delay in the transition between the daytime and nighttime operation of the Daytime Running Lamps (DRL) and the automatic headlamp systems, so that driving under bridges or bright overhead street lights does not affect the system. The DRL and automatic headlamp system are only affected when the light sensor sees a change in lighting lasting longer than the delay.

If the vehicle is started in a dark garage, the automatic headlamp system comes on after the transmission is shifted out of P (Park). Once the vehicle leaves the garage, it takes about one minute for the automatic headlamp system to change to DRL if it is light outside. During that delay, the instrument panel cluster might not be as bright as usual. Make sure the instrument panel brightness control is in the full bright position.

If the vehicle is running and the automatic headlamp system is already on, it can be turned off by turning and releasing the headlamp control at the off position. The automatic headlamp system stays off until you turn and release the headlamp control at the off position again. See *Headlamps on page 3-13*.

## Fog Lamps

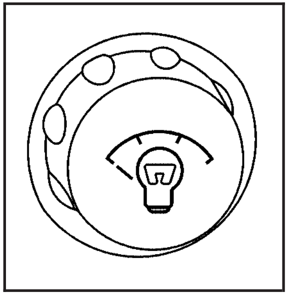
For vehicles with fog lamps, the button is located on the instrument panel to the right of the exterior lamps knob. Use the fog lamps for better vision in foggy or misty conditions.

The ignition must be in ON/RUN for the fog lamps to work.

**:** Press to turn the fog lamps on or off. An indicator light turns on near the button while the fog lamps are on. Fog lamps turn off whenever the high-beam headlamps are on.

Some localities have laws that require the headlamps to be on along with the fog lamps.

## Instrument Panel Brightness



Press the knob located next to the exterior lamps knob to extend it.

Turn the knob to adjust the instrument panel lights. Turn the knob all the way up to turn on the interior lamps. Press the knob back into its stored position when you are not using it.

## Dome Lamps

The dome lamps come on when a door is opened, unless the dome lamp override button is pressed in.

## Dome Lamp Override

The dome override button is located below the exterior lamps knob.

**:** Press to turn the dome lamps off. The dome lamps will remain off when a door is open. This overrides the illuminated entry feature unless the Remote Keyless Entry (RKE) transmitter is used to unlock the vehicle.

Press the button again to return the lamps to automatic operation. The dome lamps will come on when a door is opened.

## Entry Lighting

The vehicle has entry lighting.

When any door is opened, the dome lamps come on as long as the dome override lamp override button is not pressed in. When all the doors are closed, the lamps stay on for a short period of time and then turn off automatically. If you use the Remote Keyless Entry (RKE) transmitter to unlock the vehicle, the interior lamps come on for a short time whether or not the dome lamp override is on.

## Exit Lighting

With exit lighting, the interior lamps come on when you remove the key from the ignition. If the dome override is off, these lamps stay on for a short period of time and then go out.

## Reading Lamps

The reading lamps are located in the front console.

Press the lens on the lamps to turn the reading lamps on or off.

## Electric Power Management

The vehicle has Electric Power Management (EPM) that estimates the battery's temperature and state of charge. It then adjusts the voltage for best performance and extended life of the battery.

When the battery's state of charge is low, the voltage is raised slightly to quickly bring the charge back up. When the state of charge is high, the voltage is lowered slightly to prevent overcharging. If the vehicle has a voltmeter gage or a voltage display on the Driver Information Center (DIC), you may see the voltage move up or down. This is normal. If there is a problem, an alert will be displayed.

The battery can be discharged at idle if the electrical loads are very high. This is true for all vehicles. This is because the generator (alternator) may not be spinning fast enough at idle to produce all the power that is needed for very high electrical loads.

A high electrical load occurs when several of the following are on, such as: headlamps, high beams, fog lamps, rear window defogger, climate control fan at high speed, heated seats, engine cooling fans, trailer loads, and loads plugged into accessory power outlets.

EPM works to prevent excessive discharge of the battery. It does this by balancing the generator's output and the vehicle's electrical needs. It can increase engine idle speed to generate more power, whenever needed. It can temporarily reduce the power demands of some accessories.

Normally, these actions occur in steps or levels, without being noticeable. In rare cases at the highest levels of corrective action, this action may be noticeable to the driver. If so, a Driver Information Center (DIC) message might be displayed, such as BATTERY SAVER ACTIVE, BATTERY VOLTAGE LOW, or LOW BATTERY. If this message is displayed, it is recommended that the driver reduce the electrical loads as much as possible. See *DIC Warnings and Messages on page 3-51*.

## Battery Run-Down Protection

This feature shuts off the dome, courtesy, and vanity lamps if they are left on for more than 20 minutes when the ignition is off. This helps to keep the battery from running down.

If the battery run-down protection shuts off the interior lamps, it may be necessary to do one of the following to return to normal operation:

- Shut off all lamps and close all doors.
- Turn the ignition key to ON/RUN.

This feature also turns off the parking lamps and headlamps under most circumstances, if they are left on. Turn the exterior lamps knob to turn them back on.

## Accessory Power Outlet(s)

Accessory power outlets let you plug in auxiliary electrical equipment, such as a cellular telephone.

The vehicle has three accessory power outlets. There are two outlets located below the climate controls and one outlet is on the rear of the center floor console.

Remove the cover from the outlet to use the outlet. Be sure to put the cover back on when not using the accessory power outlet.

Certain electrical accessories may not be compatible with the accessory power outlet and could result in blown vehicle or adaptor fuses. If you experience a problem, see your dealer/retailer for additional information on the accessory power outlets.

***Notice:*** **Adding any electrical equipment to the vehicle can damage it or keep other components from working as they should. The repairs would not be covered by the vehicle warranty. Do not use equipment exceeding maximum amperage rating of 20 amperes. Check with your dealer/retailer before adding electrical equipment.**

When adding electrical equipment, be sure to follow the proper installation instructions included with the equipment.

***Notice:*** **Improper use of the power outlet can cause damage not covered by the warranty. Do not hang any type of accessory or accessory bracket from the plug because the power outlets are designed for accessory power plugs only.**

## Ashtray(s) and Cigarette Lighter

For vehicles with this feature, the ashtray is removable and fits into the front cupholder.

***Notice:*** **If papers, pins, or other flammable items are put in the ashtray, hot cigarettes or other smoking materials could ignite them and possibly damage the vehicle. Never put flammable items in the ashtray.**

To remove the ashtray, pull the covered bin out of the cupholder.

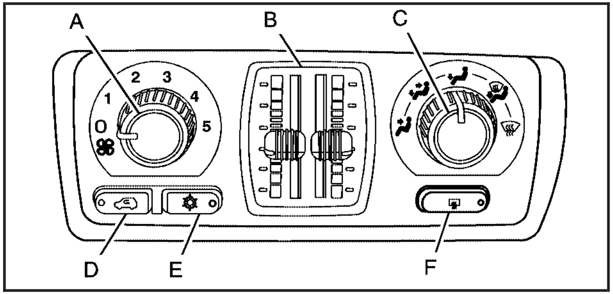
To use the lighter, press it in all the way, and let go. When it is ready, it will pop back out by itself.

***Notice:*** **Holding a cigarette lighter in while it is heating will not allow the lighter to back away from the heating element when it is hot. Damage from overheating may occur to the lighter or heating element, or a fuse could be blown. Do not hold a cigarette lighter in while it is heating. Do not use equipment exceeding maximum amperage rating of 20 amperes.**

# Climate Controls

## Dual Climate Control System

With this system the heating, cooling, and ventilation can be controlled for the vehicle.




B. Fan Control
C. Driver and Passenger Temperature Controls
D. Air Delivery Mode Control
E. Recirculation
F. Air Conditioning
G. Rear Window Defogger

**Driver's Side Temperature Lever:** Raise or lower the lever to increase or decrease the temperature on the driver's side of the vehicle.

**Passenger Side Temperature Lever:** Raise or lower the lever to increase or decrease the temperature on the passenger side of the vehicle. This right lever also adjusts the temperature to the rear seat outlets.

When the temperature outside is 0°F (-18°C) or lower, use the engine coolant heater, if the vehicle has one, to provide warmer air faster to the vehicle.

**(Fan Control):** Turn clockwise or counterclockwise to increase or decrease the fan speed. If the knob is in off mode, outside air still enters the vehicle, and is directed based on the position of the air delivery mode knob. The temperature can still be adjusted using the temperature knob.

**Air Delivery Mode Control:** Turn clockwise or counterclockwise to change the airflow direction inside the vehicle.

To change the current mode, select one of the following:

**(Vent):** Air is directed to the instrument panel outlets.

**(Bi-Level):** Air is divided between the instrument panel and floor outlets. Some air is directed toward the windshield and the side window outlets. Cooler air is directed to the upper vents and warmer air to the floor outlets.

**(Floor):** Air is directed to the floor outlets, with some air directed to the windshield and the side window outlets. The recirculation button cannot be selected while in floor mode.

**(Defog):** This mode clears the windows of fog or moisture. Air is directed to the floor, windshield and side window outlets. The recirculation button cannot be selected while in defog mode.

**(Defrost):** This mode clears the windows of fog or frost more quickly. Air is directed to the windshield and the side window outlets, with some air directed to the floor outlets. The air conditioning compressor may run to dehumidify the air to prevent window fogging. The recirculation button cannot be selected while in defrost mode.

Do not drive the vehicle until all the windows are clear.

**(Air Conditioning):** Press to turn the air-conditioning system on or off. An indicator light comes on and the system begins to cool and dehumidify the air inside of the vehicle. You may notice a slight change in engine performance when the air conditioning compressor shuts off and turns on again. This is normal.

**(Recirculation):** Press to turn the recirculation mode on. An indicator light comes to show that the recirculation is on. This mode recirculates and helps to quickly cool the air inside the vehicle. It can be used to help prevent outside air and odors from entering the vehicle. The air conditioning compressor will also come on when this mode is activated. While in recirculation mode, the windows may fog when the weather is cold and damp. To clear the fog, select either the defog or defrost mode and increase fan speed.

## Rear Window Defogger

The rear window defogger uses a warming grid to remove fog from the rear window.

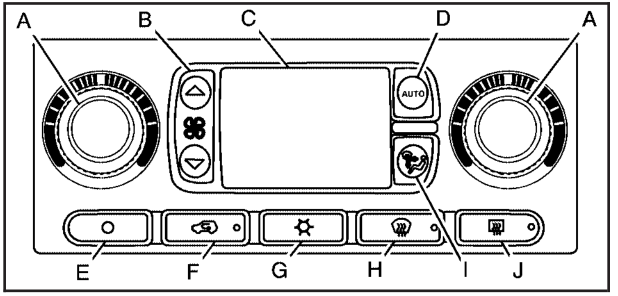
**(Rear):** Press to turn the rear window defogger on or off. An indicator light in the button comes on to show that the rear window defogger is on. The rear window defogger automatically turns off approximately ten minutes after the button is pressed.

For vehicles with heated mirrors, they turn on when the rear window defogger button is pressed.

***Notice:*** **Do not use anything sharp on the inside of the rear window. If you do, you could cut or damage the warming grid, and the repairs would not be covered by the vehicle warranty. Do not attach a temporary vehicle license, tape, a decal or anything similar to the defogger grid.**

## Dual Automatic Climate Control System

With this system the heating, cooling and ventilation can be controlled on the vehicle. When the vehicle is first started and the climate control system is on, or if the climate control system has been turned on, the display shows the driver's temperature setting for five seconds. Then it shows the outside temperature.




A. Driver and Passenger Side Temperature Controls
B. Fan Control
C. Display
D. AUTO
E. Power Button
F. Recirculation
G. Air Conditioning
H. Defrost
I. Air Delivery Mode Control
J. Rear Window Defogger

## Outside Air Temperature Display

A new outside temperature reading is displayed if the vehicle has been off for more than three hours. If the vehicle has been off for less than three hours, the old temperature reading may be displayed because underhood heat is affecting the true outside temperature. Underhood heat can also affect the outside temperature while the engine is running. It may also take several minutes of driving before the display updates to the actual outside temperature.

## Automatic Operation

**AUTO (Automatic):** When automatic operation is active, the system controls the air delivery mode, fan speed, and temperature inside the vehicle.

Use the steps below to place the entire system in automatic mode:

1. Press AUTO.

   When AUTO is selected, the air conditioning and air inlet are automatically controlled. The air conditioning compressor will run continuously when the outside temperature is over approximately 40°F (4°C). The air inlet will normally be set to outside air. If it is hot outside, the air inlet automatically changes to recirculate inside air to help quickly cool down the vehicle.

2. Set the driver's and passenger's temperature.

   To find your comfort setting, start with a 72°F (22°C) temperature setting and allow about 20 minutes for the system to adjust. Turn the driver or passenger side temperature knob to adjust the temperature setting as necessary. If a temperature setting of 60°F (15°C) is chosen, the system will remain at the maximum cooling setting. If a temperature setting of 90°F (32°C) is chosen, the system remains at the maximum heat setting. Choosing either maximum setting may not cause the vehicle to heat or cool any faster.

## Manual Operation

○ **(Off):** Press to turn off the entire climate control system. Outside air still enters the vehicle, and will be directed to the floor. The system turns on by pressing either AUTO, air delivery mode, fan control, or by adjusting either temperature knob.

**Driver's Side Temperature Knob:** Turn clockwise or counterclockwise to increase or decrease the temperature on the driver side of the vehicle. The display will show the temperature setting decreasing or increasing and an arrow pointing toward the driver. This knob can also adjust the passenger side temperature setting if the two are linked.

**Passenger Side Temperature Knob:** Turn clockwise or counterclockwise to increase or decrease the temperature on the passenger side of the vehicle. The display will show the temperature setting decreasing or increasing and an arrow pointing toward the passenger. The passenger temperature setting can be set to match and link to the driver's temperature setting by pressing and holding the AUTO button for three seconds. When adjusting the driver side temperature setting, the passenger side temperature setting will follow and both arrows will appear on the display. The passenger side temperature setting also resets and re-links to the driver side temperature setting if the vehicle has been off for more than three hours.

△ ❀ ▽ **(Fan Control):** Press the arrows to increase or decrease the fan speed. The display shows the selected fan speed and the driver side temperature setting for five seconds.

**(Air Delivery Mode Control):** Press to change the direction of the airflow in the vehicle. The air delivery modes will appear on the display as it is being adjusted. The display shows the selected air delivery mode and the driver temperature setting for five seconds.

To change the current air delivery mode, select one of the following:

**(Vent):** Air is directed to the instrument panel outlets.

**(Bi-Level):** Air is divided between the instrument panel and floor outlets. Some air is directed toward the windshield and side window outlets. Cooler air is directed to the upper outlets and warmer air to the floor outlets.

**(Floor):** Air is directed to the floor outlets. Some air also comes out of the defroster and side window outlets. The recirculation button cannot be selected in floor mode.

**(Defog):** This mode clears the windows of fog or moisture. Air is directed to the floor and windshield outlets.

**(Front Defrost):** Press the front defrost button to clear the windows of fog or frost more quickly. The system automatically controls the fan speed if defrost is selected from AUTO mode. If the outside temperature is 40°F (4°C) or warmer, the air conditioning compressor runs automatically to help dehumidify the air and dry the windshield.

Do not drive the vehicle until all the windows are clear.

**A/C (Air Conditioning):** Press to turn the air conditioning system on or off. When the system is on, the system automatically begins to cool and dehumidify the air inside of the vehicle. The air conditioning symbol appears on the display when the air conditioning is on and turns off when the air conditioning is off.

If the air conditioning is turned off while in front defrost or defog mode, the air conditioning symbol turns off, however, the A/C compressor remains on to help de-humidify the air inside the vehicle. If one of the other modes is selected, the compressor will then turn the A/C off until it is selected again or the AUTO button is pressed.

To avoid fogging the inside glass on rainy and humid days at a temperature above freezing, press the air conditioning button to run the A/C compressor. Also it is best to avoid the use of the recirculation mode except when maximum air conditioning performance is needed or for short times to avoid exterior odors.

You may notice a slight change in engine performance when the air-conditioning compressor shuts off and turns on again. This is normal.

**(Recirculation):** Press to turn the recirculation mode on or off. An indicator light comes on to show that recirculation is on. This mode recirculates and helps to quickly cool the air inside the vehicle. It can be used to help prevent outside air and odors from entering the vehicle. Recirculation mode can be used with vent and bi-level modes, but it cannot be used with floor, defog or defrost modes.

If recirculation mode is selected with floor, defog, or defrost modes, the indicator flashes three times and turns off to indicate the selection is not available.

The air conditioning compressor may also run while in recirculation mode. This is normal and helps to prevent window fogging.

If the weather is cold and damp, the system may cause the windows to fog while using recirculation mode. If the windows do start to fog, select defog or defrost mode and increase fan speed.

Recirculation mode, if selected, will be cleared when the engine is turned off.

## Rear Window Defogger

The rear window defogger uses a warming grid to remove fog from the rear window.

**(Rear):** Press to turn the rear window defogger on or off.

An indicator light comes on to show that the rear window defogger is on.

The rear window defogger will turn off approximately 10 minutes after the button is pressed. If additional warming time is needed, press the button again.

The heated mirrors will also come on when the rear window defogger is turned on. See *Outside Heated Mirrors on page 2-44*.

***Notice:*** **Do not use a razor blade or sharp object to clear the inside rear window. Do not adhere anything to the defogger grid lines in the rear glass. These actions may damage the rear defogger. Repairs would not be covered by your warranty.**

# Outlet Adjustment

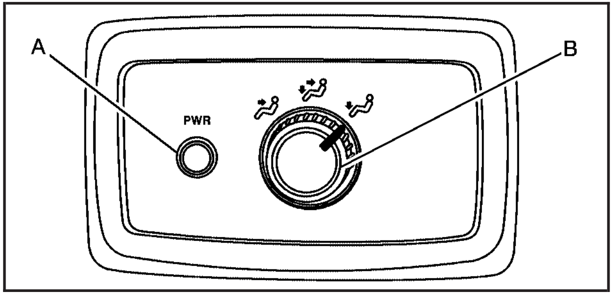
Use the air outlets located in the center and on the side of the instrument panel to direct the airflow. Use the thumbwheels near the air outlets to open or close off the airflow.

## Operation Tips

- Clear away any ice, snow, or leaves from air inlets at the base of the windshield that could block the flow of air into the vehicle.
- Keep the path under the front seats clear of objects to help circulate the air inside of the vehicle more effectively.
- Use of non-GM approved hood deflectors can adversely affect the performance of the system. Check with your dealer/retailer before adding equipment to the outside of the vehicle.

## Rear Climate Control System

The vehicle has one of the following rear climate control systems. With either of these systems, the rear climate controls will be disabled when the front climate control system is in defrost. This occurs to provide maximum airflow to clear the windshield.




A. Power Button

B. Air Delivery Mode Control

The temperature of the air coming through the rear outlets is determined by the front passenger temperature setting.

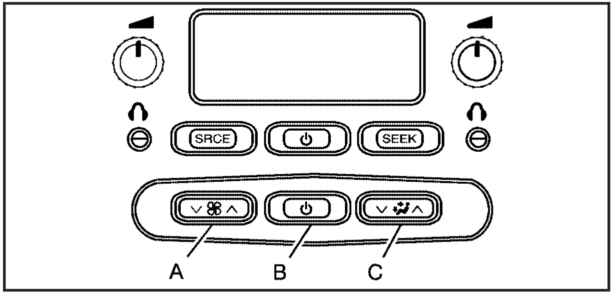
**PWR (Power):** Press to turn the rear climate controls on or off.

**Air Delivery Mode Control:** Turn clockwise or counterclockwise to change the direction of the airflow to the rear seat area.

**(Panel):** Air is directed to the rear console outlets.

**(Bi-level):** Air is directed to the second seat side floor outlets and the rear console outlets.

**(Floor):** Air is directed to the second seat side floor outlets.




A. Fan Control

B. Power Button

C. Air Delivery Mode Control

If the vehicle has the rear seat audio system, the lower buttons are used to adjust the rear seat climate control system. The temperature of the air coming through the rear outlets is determined by the front passenger temperature setting.

**(On/Off):** Press to turn the rear climate controls on or off.

**(Fan Control):** Press to increase or decrease the fan speed.

**(Air Delivery Mode Control):** Press to change the direction of airflow (panel, bi-level or floor) to the rear seat area.

The rear control only turns on if the front climate control system is on and not in defrost mode.

# Warning Lights, Gages, and Indicators

Warning lights and gages can signal that something is wrong before it becomes serious enough to cause an expensive repair or replacement. Paying attention to the warning lights and gages could prevent injury.

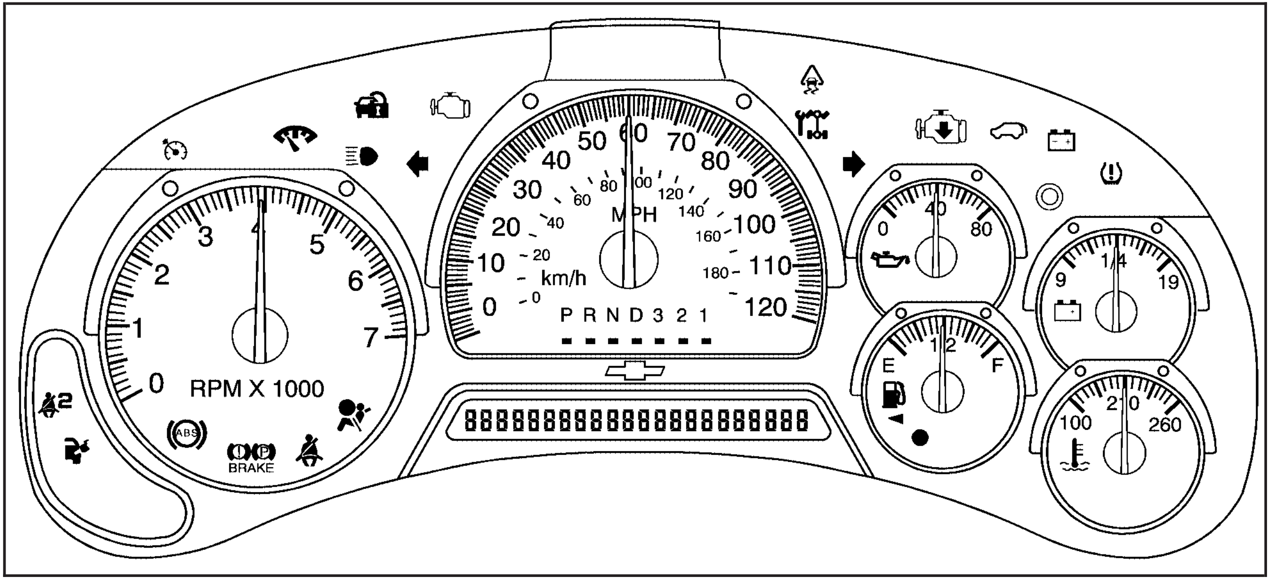
Warning lights come on when there may be or is a problem with one of the vehicle's functions. Some warning lights come on briefly when the engine is started to indicate they are working.

Gages can indicate when there may be or is a problem with one of the vehicle's functions. Often gages and warning lights work together to indicate a problem with the vehicle.

When one of the warning lights comes on and stays on while driving, or when one of the gages shows there may be a problem, check the section that explains what to do. Follow this manual's advice. Waiting to do repairs can be costly and even dangerous.

# Instrument Panel Cluster

Your instrument panel cluster is designed to let you know at a glance how your vehicle is running. You will know how fast you are going, about how much fuel you have used, and many other things you will need to know to drive safely and economically.




**United States Uplevel version shown, Canada, Base and SS Model similar**

## Speedometer and Odometer

The speedometer the vehicle speed in both miles per hour (mph) and kilometers per hour (km/h).

The odometer shows how far the vehicle has been driven, in either miles (used in the United States) or kilometers (used in Canada).

The odometer mileage can be checked without the vehicle running. Press the trip stem located on the instrument panel cluster.

If the vehicle needs a new odometer installed, the new one will be set to the correct mileage total of the old odometer.

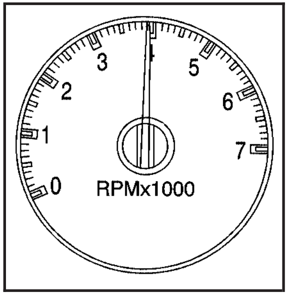
## Trip Odometer

The trip odometer can tell you how far your vehicle has been driven since you last set the trip odometer to zero.

The odometer works together with the Driver Information Center (DIC). You can set a Trip A and Trip B odometer. See "Trip Information" under *DIC Operation and Displays on page 3-48*.

The odometer mileage can be checked without the vehicle running. Press the trip stem on the instrument panel cluster.

## Tachometer




The tachometer displays the engine speed in revolutions per minute (rpm).

# Safety Belt Reminders

## Safety Belt Reminder Light

When the engine is started, a chime sounds for several seconds to remind a driver to fasten the safety belt, unless the driver safety belt is already buckled.

The safety belt light comes on and stays on for several seconds, then flashes for several more.

This chime and light are repeated if the driver remains unbuckled and the vehicle is in motion. If the driver's safety belt is already buckled, neither the chime nor the light comes on.

## Passenger Safety Belt Reminder Light

Several seconds after the engine is started, a chime sounds for several seconds to remind the front passenger to buckle their safety belt. This only occurs if the passenger airbag is enabled. See *Passenger Sensing System on page 1-63* for more information. The passenger safety belt light, located on the instrument panel, comes on and stays on for several seconds and then flashes for several more.

This chime and light are repeated if the passenger remains unbuckled and the vehicle is in motion.

If the passenger safety belt is buckled, neither the chime nor the light comes on.

The front passenger safety belt warning light and chime may turn on if an object is put on the seat such as a briefcase, handbag, grocery bag, laptop or other electronic device. To turn off the warning light and or chime, remove the object from the seat or buckle the safety belt

## Airbag Readiness Light

The system checks the airbag's electrical system for possible malfunctions. If the light stays on it indicates there is an electrical problem. The system check includes the airbag sensor, the pretensioners, the airbag modules, the wiring and the crash sensing and diagnostic module. For more information on the airbag system, see *Airbag System on page 1-55*.

The airbag readiness light flashes for a few seconds when the engine is started. If the light does not come on then, have it fixed immediately.

**⚠ CAUTION:**

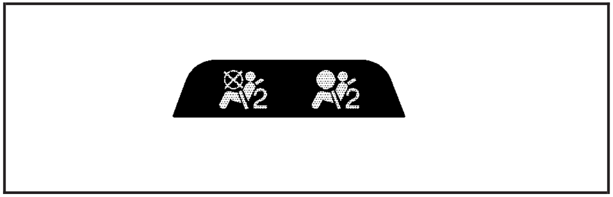
If the airbag readiness light stays on after the vehicle is started or comes on while driving, it means the airbag system might not be working properly. The airbags in the vehicle might not inflate in a crash, or they could even inflate without a crash. To help avoid injury, have the vehicle serviced right away.

If there is a problem with the airbag system, an airbag Driver Information Center (DIC) message can also come on. See *DIC Warnings and Messages on page 3-51* for more information.

# Passenger Airbag Status Indicator

The vehicle has the passenger sensing system. See *Passenger Sensing System on page 1-63* for important safety information. The rearview mirror has a passenger airbag status indicator.

**United States**



**Canada**

When the vehicle is started, the passenger airbag status indicator will light ON and OFF, or the symbol for on and off, for several seconds as a system check. Then, after several more seconds, the status indicator will light either ON or OFF, or either the on or off symbol to let you know the status of the right front passenger frontal airbag.

If the word ON or the on symbol is lit on the passenger airbag status indicator, it means that the right front passenger frontal airbag is enabled (may inflate).

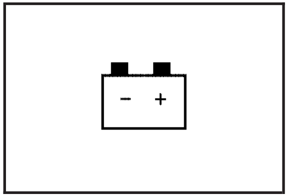
If the word OFF or the off symbol is lit on the airbag status indicator, it means that the passenger sensing system has turned off the right front passenger frontal airbag.

If, after several seconds, both status indicator lights remain on, or if there are no lights at all, there may be a problem with the lights or the passenger sensing system. See your dealer/retailer for service.

**⚠ CAUTION:**

If the airbag readiness light ever comes on and stays on, it means that something may be wrong with the airbag system. To help avoid injury to yourself or others, have the vehicle serviced right away. See *Airbag Readiness Light on page 3-32* for more information, including important safety information.

## Charging System Light

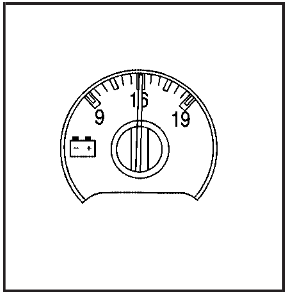



This light comes on briefly when the ignition key is turned to START, but the engine is not running, as a check to show it is working.

If it does not, have the vehicle serviced by your dealer/retailer.

The light should go out once the engine starts. If it stays on, or comes on while driving, there could be a problem with the charging system. A charging system message in the Driver Information Center (DIC) can also appear. See *DIC Warnings and Messages on page 3-51* for more information. This light could indicate that there are problems with a generator drive belt, or that there is an electrical problem. Have it checked right away. If the vehicle must be driven a short distance with the light on, turn off accessories, such as the radio and air conditioner.

# Voltmeter Gage




When your engine is not running, but the ignition is on, this gage displays the battery voltage in DC volts.

When the engine is running, the gage shows the condition of the charging system. The gage may transition from a higher to lower or a lower to higher reading. This is normal. Readings between the low and high warning zones indicate the normal operating range. The voltmeter gage may also read lower when in fuel economy mode. This is normal.

Readings in the low warning zone may occur when a large number of electrical accessories are operating in the vehicle and the engine is left idling for an extended period. This condition is normal since the charging system is not able to provide full power at engine idle. As engine speeds are increased, this condition should correct itself as higher engine speeds allow the charging system to create maximum power.

You can only drive for a short time with the reading in either warning zone. If you must drive, turn off all unnecessary accessories.

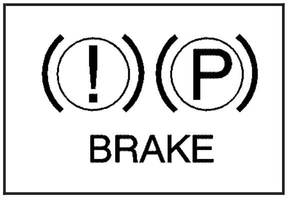
Readings in either warning zone indicate a possible problem in the electrical system. Have the vehicle serviced as soon as possible.

## Brake System Warning Light

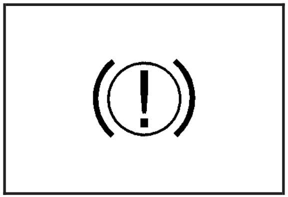
When the ignition is on, the brake system warning light will come on when you set your parking brake. The light will stay on if your parking brake does not release fully. If it stays on after your parking brake is fully released, it means your vehicle has a brake problem. A chime may also sound when the light comes on.

Your vehicle's hydraulic brake system is divided into two parts. If one part is not working, the other part can still work and stop you. For good braking, though, you need both parts working well.

If the warning light comes on, there could be a brake problem. Have your brake system inspected right away.




**United States**



**Canada**

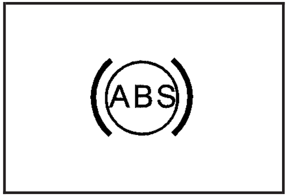
This light should come on briefly when you turn the ignition key to ON/RUN. If it does not come on then, have it fixed so it will be ready to warn you if there is a problem.

If the light comes on while you are driving, pull off the road and stop carefully. You may notice that the pedal is harder to push or the pedal may go closer to the floor. It may take longer to stop. If the light is still on, have the vehicle towed for service. See *Towing Your Vehicle on page 4-40*.

**⚠ CAUTION:**

The brake system might not be working properly if the brake system warning light is on. Driving with the brake system warning light on can lead to a crash. If the light is still on after the vehicle has been pulled off the road and carefully stopped, have the vehicle towed for service.

## Antilock Brake System (ABS) Warning Light




For vehicles with the Antilock Brake System (ABS), this light comes on briefly when the engine is started.

If it does not, have the vehicle serviced by your dealer/retailer. If the system is working normally the indicator light then goes off.

If the ABS light stays on, turn the ignition off. If the light comes on while driving, stop as soon as it is safely possible and turn the ignition off. Then start the engine again to reset the system. If the ABS light stays on, or comes on again while driving, the vehicle needs service. If the regular brake system warning light is not on, the vehicle still has brakes, but not antilock brakes. If the regular brake system warning light is also on, the vehicle does not have antilock brakes and there is a problem with the regular brakes. See *Brake System Warning Light on page 3-36*.

For vehicles with a Driver Information Center (DIC), see *DIC Warnings and Messages on page 3-51* for all brake related DIC messages.

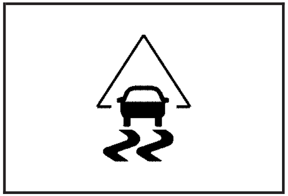
## StabiliTrak® Service Light

This light will come on briefly when the engine is started.

This light will come on if a problem is detected in the StabiliTrak® system.

For more information see *StabiliTrak® System on page 4-6*.

# StabiliTrak® Indicator Light



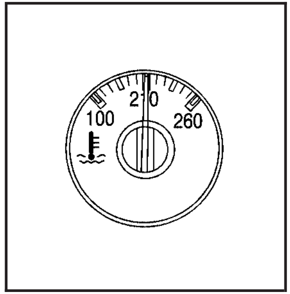
This warning light should come on briefly when the engine is started.

During most driving conditions, this light will not come on. If the StabiliTrak® System is actively controlling the stability and/or traction of the vehicle, this light will flash. This is normal.

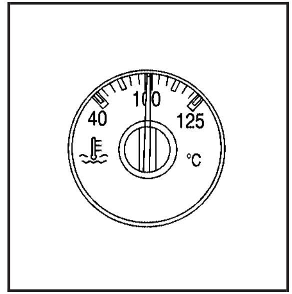
This light will come on if any portion of the system has been manually turned off or a problem is detected in the system.

If your vehicle has a Driver Information Center, a message will appear also, see *DIC Warnings and Messages on page 3-51* and *StabiliTrak® System on page 4-6* for more information.

# Engine Coolant Temperature Gage




**United States**

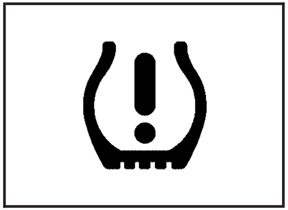



**Canada**

This gage shows the engine coolant temperature. If the gage pointer moves into the red area, it means that your engine coolant has overheated. If you have been operating your vehicle under normal driving conditions, you should pull off the road, stop your vehicle and turn off the engine as soon as possible.

See *Engine Overheating on page 5-35* for more information.

# Tire Pressure Light



For vehicles with a tire pressure light, this light comes on briefly when the engine is started and provides information about tire pressures and the Tire Pressure Monitoring System.

## When the Light is On Steady

This indicates that one or more of the tires is significantly underinflated.

A tire pressure message in the Driver Information Center (DIC), can accompany the light. See *DIC Warnings and Messages on page 3-51* for more information. Stop and check the tires as soon as it is safe to do so. If a tire is underinflated, inflate to the proper pressure. See *Tires on page 5-58* for more information.

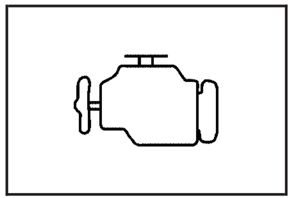
## When the Light Flashes First and Then is On Steady

This indicates that there could be a problem with the Tire Pressure Monitor System. The light flashes for about a minute and stays on steady for the remainder of the ignition cycle. This sequence repeats with every ignition cycle. See *Tire Pressure Monitor System on page 5-67* for more information.

# Malfunction Indicator Lamp

## Check Engine Light

A computer system called OBD II (On-Board Diagnostics-Second Generation) monitors operation of the fuel, ignition, and emission control systems. It ensures that emissions are at acceptable levels for the life of the vehicle, helping to produce a cleaner environment.



This light should come on when the ignition is on, but the engine is not running, as a check to show it working. If it does not, have the vehicle serviced by your dealer/retailer.

If the check engine light comes on and stays on, while the engine is running, this indicates that there is an OBD II problem and service is required.

Malfunctions often are indicated by the system before any problem is apparent. Being aware of the light can prevent more serious damage to the vehicle. This system assists the service technician in correctly diagnosing any malfunction.

***Notice:*** **If the vehicle is continually driven with this light on, after a while, the emission controls might not work as well, the vehicle's fuel economy might not be as good, and the engine might not run as smoothly. This could lead to costly repairs that might not be covered by the vehicle warranty.**

***Notice:*** **Modifications made to the engine, transmission, exhaust, intake, or fuel system of the vehicle or the replacement of the original tires with other than those of the same Tire Performance Criteria (TPC) can affect the vehicle's emission controls and can cause this light to come on. Modifications to these systems could lead to costly repairs not covered by the vehicle warranty. This could also result in a failure to pass a required Emission Inspection/Maintenance test. See** ***Accessories and Modifications on page 5-3*****.**

This light comes on during a malfunction in one of two ways:

**Light Flashing:** A misfire condition has been detected. A misfire increases vehicle emissions and could damage the emission control system on the vehicle. Diagnosis and service might be required.

To prevent more serious damage to the vehicle:

- Reduce vehicle speed.
- Avoid hard accelerations.
- Avoid steep uphill grades.
- If towing a trailer, reduce the amount of cargo being hauled as soon as it is possible.

If the light continues to flash, when it is safe to do so, stop the vehicle. Find a safe place to park the vehicle. Turn the key off, wait at least 10 seconds, and restart the engine. If the light is still flashing, follow the previous steps and see your dealer/retailer for service as soon as possible.

**Light On Steady:** An emission control system malfunction has been detected on the vehicle. Diagnosis and service might be required.

An emission system malfunction might be corrected by doing the following:

- Make sure the fuel cap is fully installed. See *Filling the Tank on page 5-8*. The diagnostic system can determine if the fuel cap has been left off or improperly installed. A loose or missing fuel cap allows fuel to evaporate into the atmosphere. A few driving trips with the cap properly installed should turn the light off.
- If the vehicle has been driven through a deep puddle of water, the vehicle's electrical system might be wet. The condition is usually corrected when the electrical system dries out. A few driving trips should turn the light off.
- Make sure to fuel the vehicle with quality fuel. Poor fuel quality causes the engine not to run as efficiently as designed and can cause: stalling after start-up, stalling when the vehicle is changed into gear, misfiring, hesitation on acceleration, or stumbling on acceleration. These conditions might go away once the engine is warmed up.

  If one or more of these conditions occurs, change the fuel brand used. It will require at least one full tank of the proper fuel to turn the light off.

  See *Gasoline Octane on page 5-6*.

If none of the above have made the light turn off, your dealer/retailer can check the vehicle. The dealer/retailer has the proper test equipment and diagnostic tools to fix any mechanical or electrical problems that might have developed.

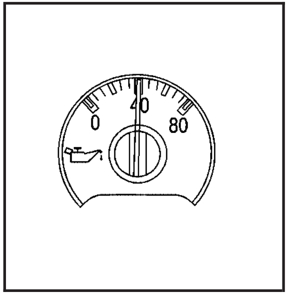
## Emissions Inspection and Maintenance Programs

Some state/provincial and local governments have or might begin programs to inspect the emission control equipment on the vehicle. Failure to pass this inspection could prevent getting a vehicle registration.

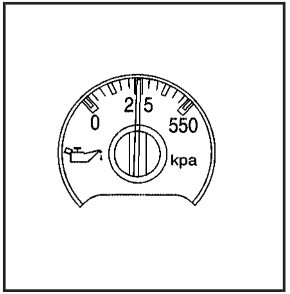
Here are some things to know to help the vehicle pass an inspection:

- The vehicle will not pass this inspection if the check engine light is on with the engine running, or if the key is in ON/RUN and the light is not on.
- The vehicle will not pass this inspection if the OBD II (on-board diagnostic) system determines that critical emission control systems have not been completely diagnosed by the system. The vehicle would be considered not ready for inspection. This can happen if the battery has recently been replaced or if the battery has run down. The diagnostic system is designed to evaluate critical emission control systems during normal driving. This can take several days of routine driving. If this has been done and the vehicle still does not pass the inspection for lack of OBD II system readiness, your dealer/retailer can prepare the vehicle for inspection.

# Oil Pressure Gage




**United States**




**Canada**

The oil pressure gage shows the engine oil pressure in psi (pounds per square inch) when the engine is running. Canadian vehicles indicate pressure in kPa (kilopascals).

**⚠ CAUTION:**

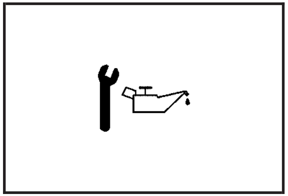
Do not keep driving if the oil pressure is low. The engine can become so hot that it catches fire. Someone could be burned. Check the oil as soon as possible and have the vehicle serviced.

***Notice:*** **Lack of proper engine oil maintenance can damage the engine. The repairs would not be covered by the vehicle warranty. Always follow the maintenance schedule in this manual for changing engine oil.**

Oil pressure may vary with engine speed, outside temperature and oil viscosity, but readings above the low pressure zone indicate the normal operating range.

A reading in the low pressure zone may be caused by a dangerously low oil level or other problems causing low oil pressure.

## Change Engine Oil Light



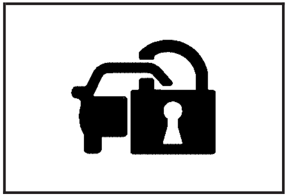
Your vehicle may have a change engine oil light.

When this light comes on it means that an oil change and other maintenance procedures are required for your vehicle.

See *Scheduled Maintenance on page 6-4* and *Engine Oil on page 5-18* for more information.

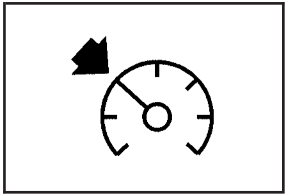
Once the engine oil has been changed, the change engine oil light must be reset. Until it is reset, the light will stay on when the engine is on.

## Security Light



For information regarding this light and the vehicle's security system, see *Content Theft-Deterrent on page 2-17*.

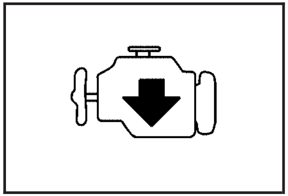
## Cruise Control Light



If your vehicle has a Driver Information Center (DIC), this light will come on when the cruise control is set.

See *Cruise Control on page 3-10* and *DIC Warnings and Messages on page 3-51* for more information.

## Reduced Engine Power Light

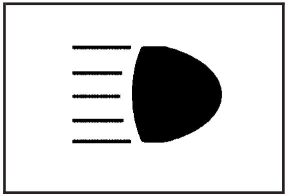


This light comes on when a noticeable reduction in the vehicle's performance occurs.

The vehicle can be driven at a reduced speed when the reduced engine power light is on, but acceleration and speed may be reduced. The performance may be reduced until the next time you drive your vehicle. If this light stays on, see your dealer as soon as possible for diagnosis and repair.

This light may also come on if there is a problem with the Electronic Throttle Control (ETC) system. If this happens, take the vehicle in for service as soon as possible.

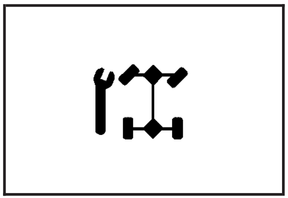
## Highbeam On Light



This light comes on when the high-beam headlamps are in use.

See *Headlamp High/Low-Beam Changer on page 3-8* for more information.

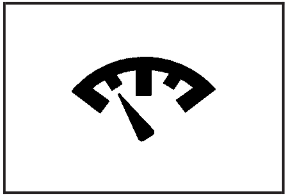
## Service Four-Wheel Drive Warning Light



This light should come on briefly when you turn on the ignition, as a check to show you it is working.

The service four-wheel drive light comes on, except for the SS model, to indicate that there may be a problem with the drive system and service is required. Malfunctions can be indicated by the system before any problem is apparent, which may prevent serious damage to the vehicle. This system is also designed to assist your GM dealer in correctly diagnosing a malfunction.

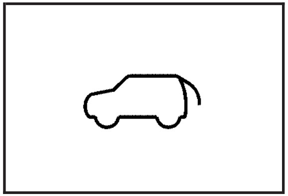
## Check Gages Warning Light



The check gages light will come on briefly when you are starting the engine.

If the light comes on and stays on while you are driving, check your coolant temperature and engine oil pressure gages to see if they are in the warning zones.

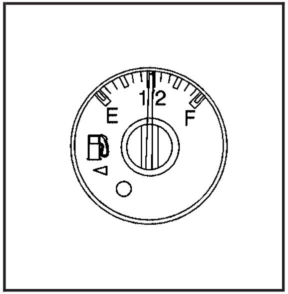
## Gate Ajar Light



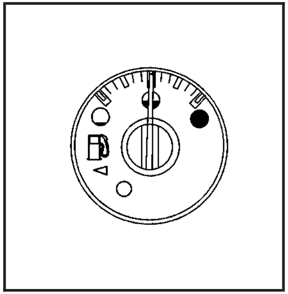
If this light comes on, the liftgate or liftglass is not completely shut.

Close the liftgate or liftglass. Never drive with the liftgate or liftglass even partially open.

## Fuel Gage




**United States**



**Canada**

When the ignition is on, the fuel gage tells you about how much fuel you have remaining.

An arrow on the fuel gage indicates the side of the vehicle the fuel door is on.

Here are four things that some owners ask about. None of these show a problem with your fuel gage:

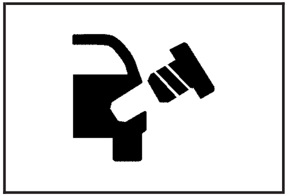
- At the gas station, the gas pump shuts off before the gage reads full.
- It takes a little more or less fuel to fill up than the gage indicated. For example, the gage may have indicated the tank was half full, but it actually took a little more or less than half the tank's capacity to fill the tank.
- The gage moves a little when you turn a corner or speed up.
- The gage doesn't go back to empty when you turn off the ignition.

## Low Fuel Warning Light

The light next to the fuel gage will come on briefly when you are starting the engine.

This light comes on when the fuel tank is low on fuel. To turn it off, add fuel to the fuel tank.

## Check Gas Cap Light



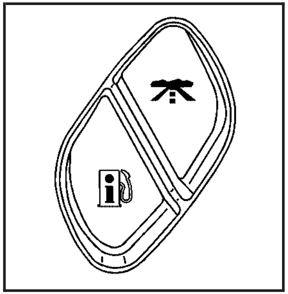
If your vehicle has this light, it will come on if your gas cap is not securely fastened.

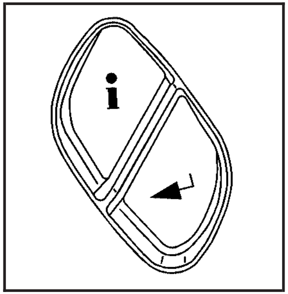
See *Malfunction Indicator Lamp on page 3-39* for more information.

# Driver Information Center (DIC)

Your vehicle may have this feature. The Driver Information Center (DIC) display is located on the instrument panel cluster, below the speedometer. If your vehicle has DIC buttons, they are located on the steering wheel. The DIC can display information such as the trip odometer, fuel economy, customization features, and warning/status messages.

If your vehicle does not have DIC steering wheel buttons, you will not have all of the features listed. Scroll through the odometer and trip odometer by pressing the trip odometer reset stem located on the instrument panel cluster. Turn off, or acknowledge, DIC messages by pressing the trip odometer reset stem. See *Speedometer and Odometer on page 3-30* for information on features for vehicles without DIC buttons.





**(Trip Information):** Press this button to display the odometer, trip odometers, tire pressure, and timer.

**(Fuel Information):** Press this button to display the current range, fuel used, average fuel economy, and engine oil life.

**i (Customization):** Press this button to access the vehicle settings menu and customize the personal settings on your vehicle.

**(Select):** Press this button to reset certain DIC functions and set your customization settings.

Pressing any of the DIC buttons will acknowledge DIC messages and clear them from the DIC display.

## DIC Operation and Displays

The DIC comes on when the ignition is on. After a short delay the DIC will display the information that was last displayed before the engine was turned off.

If a problem is detected, a warning message will appear on the display. Pressing the trip stem will acknowledge any warning or service messages. Pressing any of the DIC steering wheel buttons — trip information, fuel information, customization, or select button — will also acknowledge any warnings or service messages.

You should take any message that appears on the display seriously and remember that clearing the message will only make the message disappear, not correct the problem.

The DIC has different modes which can be accessed by pressing the four DIC buttons located on the steering wheel. These buttons are trip information, fuel information, customization, and select. The button functions are detailed in the following pages.

## Trip Information Button

**(Trip Information):** Press the trip information button to scroll through the ODOMETER, TRIP A, TRIP B, TIRE PRESSURES, and TIMER.

**Odometer:** Press the trip information button until ODOMETER appears on the display. This mode shows the total distance the vehicle has been driven in either miles or kilometers. Pressing the reset stem located on the instrument cluster with the vehicle off will also display the odometer.

**Trip A:** Press the trip information button until TRIP A appears on the display. This mode shows the current distance traveled since the last reset for TRIP A in either miles or kilometers.

**Trip B:** Press the trip information button until TRIP B appears on the display. This mode shows the current distance traveled since the last reset for TRIP B in either miles or kilometers.

To reset TRIP A or TRIP B information, press and hold the select button for one second while in one of the trip modes. This will reset the information for TRIP A or TRIP B.

You can also reset the TRIP A or TRIP B while they are displayed by pressing the reset stem on the cluster. If you press and hold the reset stem or the select button for more than four seconds, the display will show the distance traveled since the last ignition cycle for TRIP A or TRIP B.

**Tire Pressures:** On vehicles with the Tire Pressure Monitor System (TPMS), press the trip information button until TIRE PRESSURES appears on the display. This mode shows the tire pressure in pounds per square inch (psi) or kilopascals (kPa). Press the select button to scroll through the following information:

- LF TIRE shows the tire pressure for the front driver's side tire.
- RF TIRE shows the tire pressure for the front passenger's side tire.
- LR TIRE shows the tire pressure for the rear driver's side tire.
- RR TIRE shows the tire pressure for the rear passenger's side tire.

**Timer:** The DIC can be used as a timer. Press the select button while TIMER is displayed to start the timer. The display will show the amount of time that has passed since the timer was last reset, not including time the ignition is off. Time will continue to be counted as long as the ignition is on, even if another display is being shown on the DIC. The timer will record up to 99 hours, 59 minutes and 59 seconds (99:59:59) after which the display will roll back to zero.

To stop the counting of time, press the select button briefly while TIMER is displayed.

To reset the timer to zero, press and hold the select button while TIMER is displayed.

## Fuel Information Button

**(Fuel Information):** Press the fuel information button to scroll through the range, fuel used, average fuel economy, and the engine oil life system.

**Fuel Range:** Press the fuel information button until RANGE appears on the display. This mode shows the remaining distance you can drive without refueling. It is based on fuel economy and the fuel remaining in the fuel tank. The display will show LOW if the fuel level is low.

The fuel economy data used to determine fuel range is an average of recent driving conditions. As your driving conditions change, this data is gradually updated. Fuel range cannot be reset.

**Fuel Used:** Press the fuel information button until FUEL USED appears on the display. This mode shows the number of gallons or liters of fuel used since the last reset of this menu item. To reset the fuel used information, press and hold the select button for one second while FUEL USED is displayed.

**Average Fuel Economy:** Press the fuel information button until AVG. ECON appears on the display. This mode shows how many miles per gallon (MPG), liters per 100 kilometers (L/100 km), or kilometers per liter (km/L) your vehicle is getting based on current and past driving conditions.

Press and hold the select button for one second while AVG. ECON is displayed to reset the average fuel economy. Average fuel economy will then be calculated starting from that point. If the average fuel economy is not reset, it will be continually updated each time you drive.

**Engine Oil Life System:** Press the fuel information button until ENGINE OIL LIFE appears on the display. The engine oil life system shows an estimate of the oil's remaining useful life. It will show 100% when the system is reset after an oil change. It will alert you to change the oil on a schedule consistent with your driving conditions.

Always reset the engine oil life system after an oil change. To reset the engine oil life system, see *Engine Oil Life System on page 5-22*.

In addition to the engine oil life system monitoring the oil life, additional maintenance is recommended in the Maintenance Schedule in this manual. See *Engine Oil on page 5-18* and *Scheduled Maintenance on page 6-4*.

### Customization Button

**i (Customization):** Press the customization button to access the VEHICLE SETTINGS menu and customize the settings to your vehicle. See *DIC Vehicle Customization on page 3-56* for more information.

### Select Button

**◄┘ (Select):** Press the select button to reset certain DIC functions, turn off or acknowledge messages on the DIC display, and set your customization settings. For example, this button will allow you to reset the trip odometers, turn off the FUEL LEVEL LOW message, and enables you to scroll through and select the language in which the DIC information will appear.

## DIC Warnings and Messages

Messages are displayed on the DIC to notify the driver that the status of the vehicle has changed and that some action may be needed to correct the condition. Multiple messages may appear one after another.

Some messages may not require immediate action. Press any of the DIC buttons on the steering wheel or the trip odometer reset stem on the instrument panel cluster to acknowledge that you received the messages and to clear them from the display.

Some messages cannot be cleared from the display because they are more urgent. These messages require action before they can be removed from the DIC display. Take any messages that appear on the display seriously and remember that clearing the messages will only make the messages disappear, not correct the problem.

The following are the possible messages that can be displayed and some information about them.

### CHANGE ENGINE OIL

This message displays when the engine oil needs to be changed and service is required for your vehicle. See *Scheduled Maintenance on page 6-4* and *Engine Oil on page 5-18* for more information. Also see *Engine Oil Life System on page 5-22* for information on how to reset the message. This message clears itself after 10 seconds until the next ignition cycle.

## CHECK TIRE PRESSURE

On vehicles with the Tire Pressure Monitor System (TPMS), this message displays when the pressure in one or more of the vehicle's tires needs to be checked. If a tire pressure message appears on the DIC, stop as soon as you can. Have the tire pressures checked and set to those shown on the Tire Loading Information label. See *Tires on page 5-58*, *Loading the Vehicle on page 4-33*, and *Inflation - Tire Pressure on page 5-65*. The DIC also shows the tire pressure values. See *DIC Operation and Displays on page 3-48*. If the tire pressure is low, the low tire pressure warning light comes on. See *Tire Pressure Light on page 3-39*.

## CHECK WASHER FLUID

This message displays if the washer fluid level is low. Adding washer fluid to the windshield washer fluid reservoir clears this message. See *Windshield Washer Fluid on page 5-38*. This message clears itself after 10 seconds, or you can manually clear it from the DIC display.

## DRIVER DOOR AJAR

This message displays and a chime sounds if the driver door is not fully closed. Stop and turn off the vehicle, check the door for obstructions, and close the door again. Check to see if the message still appears on the DIC.

## ENGINE COOLANT HOT/ENGINE OVERHEATED

***Notice:*** **If you drive your vehicle while the engine is overheating, severe engine damage may occur. If an overheat warning appears on the instrument panel cluster and/or DIC, stop the vehicle as soon as possible. Do not increase the engine speed above normal idling speed. See *Engine Overheating on page 5-35* for more information.**

This message displays and a chime sounds if the cooling system temperature gets hot. See *Engine Overheating on page 5-35* for the proper course of action. This message clears when the coolant temperature drops to a safe operating temperature.

## FUEL LEVEL LOW

This message displays and a chime sounds if the fuel level is low. Refuel as soon as possible. See *Low Fuel Warning Light on page 3-47*, *Filling the Tank on page 5-8*, and *Fuel on page 5-5* for more information.

## ICE POSSIBLE

This message may display if the outside temperature reaches a level where ice could form on the roadway. Adjust your driving accordingly. If the temperature rises to a safe level, the message clears. This message clears itself after 10 seconds, or you can manually clear it from the DIC display.

## KEY FOB # BATTERY LOW

This message displays if a Remote Keyless Entry (RKE) transmitter battery is low. Replace the battery in the transmitter. See "Battery Replacement" under *Remote Keyless Entry (RKE) System Operation on page 2-5*.

## LEFT REAR DOOR AJAR

This message displays and a chime sounds if the driver side rear door is not fully closed. Stop and turn off the vehicle, check the door for obstructions, and close the door again. Check to see if the message still appears on the DIC.

## OIL PRESSURE LOW/STOP ENGINE

***Notice:*** **If you drive your vehicle while the engine oil pressure is low, severe engine damage may occur. If a low oil pressure warning appears on the Driver Information Center (DIC), stop the vehicle as soon as possible. Do not drive the vehicle until the cause of the low oil pressure is corrected. See *Engine Oil on page 5-18* for more information.**

This message displays if low oil pressure levels occur. Stop the vehicle as soon as safely possible and do not operate it until the cause of the low oil pressure has been corrected. Check the oil as soon as possible and have your vehicle serviced by your dealer/retailer. See *Engine Oil on page 5-18*.

## PASSENGER DOOR AJAR

This message displays and a chime sounds if the passenger door is not fully closed. Stop and turn off the vehicle, check the door for obstructions, and close the door again. Check to see if the message still appears on the DIC.

## REAR ACCESS OPEN

This message displays and a chime sounds if the liftgate or liftglass is open while the ignition is in ON/RUN. Turn off the vehicle and check the liftgate and liftglass. See *Liftgate/Liftglass on page 2-13*. Restart the vehicle and check for the message on the DIC display.

## RIGHT REAR DOOR AJAR

This message displays and a chime sounds if the passenger side rear door is not fully closed. Stop and turn off the vehicle, check the door for obstructions, and close the door again. Check to see if the message still appears on the DIC.

## SERVICE AIR BAG

This message displays if there is a problem with the airbag system. Have your dealer/retailer inspect the system for problems. See *Airbag Readiness Light on page 3-32* and *Airbag System on page 1-55* for more information.

## SERVICE BRAKE SYSTEM

This message displays if a problem occurs with the brake system. If this message appears, stop as soon as possible and turn off the vehicle. Restart the vehicle and check for the message on the DIC display. If the message is still displayed, or appears again when you begin driving, the brake system needs service. See your dealer/retailer.

## SERVICE CHARGING SYS (System)

This message displays if there is a problem with the battery charging system. Under certain conditions, the charging system light may also turn on in the instrument panel cluster. See *Charging System Light on page 3-34*. The battery will not be charging at an optimal rate and the vehicle will lose the ability to enter the fuel economy mode. The vehicle is safe to drive, however you should have the electrical system checked by your dealer/retailer.

## SERVICE STABILITRAK

If this message displays, it means there may be a problem with the StabiliTrak system. If this message appears, try to reset the system by performing the following: stop; turn off the engine; then start the engine again. If this message still comes on, it means there is a problem. You should see your dealer/retailer for service. The vehicle is safe to drive, however, you do not have the benefit of StabiliTrak, so reduce your speed and drive accordingly.

## SERVICE TIRE MONITOR

On vehicles with the Tire Pressure Monitor System (TPMS), this message displays if a part on the TPMS is not working properly. The tire pressure light also flashes and then remains on during the same ignition cycle. See *Tire Pressure Light on page 3-39*. Several conditions may cause this message to appear. See *Tire Pressure Monitor Operation on page 5-69* for more information. If the warning comes on and stays on, there may be a problem with the TPMS. See your dealer/retailer.

## STABILITRAK ACTIVE

This message displays anytime the StabiliTrak system activates to maintain vehicle stability. Any combination of engine speed management, brake traction control, and stability control displays this message.

## STABILITRAK NOT READY

This message may display if driving conditions delay StabiliTrak system initialization. This is normal. Once the system initializes, this message will no longer be displayed on the DIC.

## STABILITRAK OFF

This message displays when you press the StabiliTrak button for more than five seconds or when stability control has been automatically disabled. The StabiliTrak button is located on the transmission shift handle.
To limit wheel spin and realize the full benefits of the stability enhancement system, you should normally leave StabiliTrak on. However, you should turn StabiliTrak off if your vehicle gets stuck in sand, mud, ice, or snow and you want to rock your vehicle to attempt to free it, or if you are driving in extreme off-road conditions and require more wheel spin. See *If Your Vehicle is Stuck in Sand, Mud, Ice, or Snow on page 4-32*. To turn the StabiliTrak system back on, press the StabiliTrak button again.

There are several conditions that can cause this message to appear.

- The message may display if the brake system warning light is on. See *Brake System Warning Light on page 3-36*.
- The message displays if the vehicle is shifted into 4LO.

The message turns off as soon as the conditions that caused the message to be displayed are no longer present.

## TIGHTEN FUEL CAP

This message may display and a chime may sound if the vehicle's fuel cap is not tightened properly. Fully reinstall the fuel cap. See *Filling the Tank on page 5-8*. The diagnostic system can determine if the fuel cap has been left off or improperly installed. A loose or missing fuel cap allows fuel to evaporate into the atmosphere. This message remains on until it is manually cleared from the DIC display. The DIC message is also cancelled if the ignition is turned off.

The DIC message and the Service Engine Soon light may come on again during a second trip if the fuel cap is still not tightened properly. See *Malfunction Indicator Lamp on page 3-39* for more information.

## TRACTION CONTROL OFF

This message displays when you momentarily press the StabiliTrak button located on the transmission shift handle. In this mode, stability control and the brake-traction control are functional. Engine speed management will be modified and the driven wheels can spin more freely. For more details on this mode, see *StabiliTrak® System on page 4-6*.

## TURN SIGNAL ON

This message displays and a chime sounds if a turn signal is left on for 3/4 of a mile (1.2 km). Move the turn signal/multifunction lever to the off position.

# DIC Vehicle Customization

Your vehicle may have customization capabilities that allow you to program some features to one setting based on your preference. All of the customizable options listed may not be available on your vehicle. Only the options available display on the Driver Information Center (DIC).

The default settings for the customization features were set when your vehicle left the factory, but may have been changed from their default state since then.

To change feature preferences, make sure the ignition is on and the vehicle is in P (Park). To avoid excessive drain on the battery, it is recommended that the headlamps are turned off.

Press **i** to scroll through the available customizable options.

After pressing **i** , VEHICLE SETTINGS momentarily displays before going to a customization option.

## Lock Doors

Press i until LOCK DOORS: IN GEAR appears in the display. To select your preference for automatic locking, press ◄┘ while LOCK DOORS: IN GEAR is displayed on the DIC. Pressing ◄┘ will scroll through the following settings:

**LOCK DOORS: IN GEAR (default):** The doors will lock when the vehicle is shifted out of P (Park).

**LOCK DOORS: WITH SPEED:** The doors will lock when the vehicle speed is above 8 mph (13 km/h) for three seconds.

To select a setting and move on to the next feature, press i while the desired setting is displayed on the DIC.

See *Programmable Automatic Door Locks on page 2-9* for more information.

## Unlock Doors

Press i until UNLOCK DOORS: IN PARK appears in the display. To select your preference for automatic unlocking, press ◄┘ while UNLOCK DOORS: IN PARK is displayed on the DIC. Pressing ◄┘ will scroll through the following settings:

**UNLOCK DOORS: IN PARK (default):** All of the doors will unlock when the vehicle is shifted into P (Park).

**UNLOCK DRIVER: IN PARK:** The driver's door will be unlocked when the vehicle is shifted into P (Park).

**UNLOCK DOORS: KEY OUT:** All of the doors will unlock when the key is taken out of the ignition.

**UNLOCK DOORS: MANUALLY:** The doors will not be unlocked automatically.

To select a setting and move on to the next feature, press i while the desired setting is displayed on the DIC.

See *Programmable Automatic Door Locks on page 2-9* for more information.

## Lock Feedback

Press i until LOCK FEEDBACK: BOTH appears in the display. To select your preference for the feedback you receive when locking the vehicle with the Remote Keyless Entry (RKE) transmitter, press ◄┘ while LOCK FEEDBACK: BOTH is displayed on the DIC. Pressing ◄┘ will scroll through the following settings:

**LOCK FEEDBACK: BOTH (default):** The parking lamps will flash each time you press the button with the lock symbol on the RKE transmitter and the horn will chirp the second time you press the lock button.

**LOCK FEEDBACK: OFF:** There will be no feedback when locking the vehicle.

**LOCK FEEDBACK: LAMPS:** The parking lamps will flash each time you press the button with the lock symbol on the RKE transmitter.

**LOCK FEEDBACK: HORN:** The horn will chirp the second time you press the button with the lock symbol on the RKE transmitter.

To select a setting and move on to the next feature, press i while the desired setting is displayed on the DIC.

## Unlock Feedback

Press i until UNLOCK FEEDBACK: LAMPS appears in the display. To select your preference for the feedback you will receive when unlocking the vehicle with the Remote Keyless Entry (RKE) transmitter, press ◄┘ while UNLOCK FEEDBACK: LAMPS is displayed on the DIC. Pressing ◄┘ will scroll through the following settings:

**UNLOCK FEEDBACK: LAMPS (default):** The parking lamps will flash each time you press the button with the unlock symbol on the RKE transmitter.

**UNLOCK FEEDBACK: HORN:** The horn will chirp the second time you press the button with the unlock symbol on the RKE transmitter.

**UNLOCK FEEDBACK: BOTH:** The parking lamps will flash each time you press the button with the unlock symbol on the RKE transmitter and the horn will chirp the second time you press the unlock button.

**UNLOCK FEEDBACK: OFF:** There will be no feedback when unlocking the vehicle.

To select a setting and move on to the next feature, press i while the desired setting is displayed on the DIC.

## Headlamp Delay

Press i until HEADLAMP DELAY: 10 SEC appears in the display. To select your preference for how long the headlamps will stay on after you turn off the vehicle, press ◄┘ while HEADLAMP DELAY: 10 SEC is displayed on the DIC. Pressing ◄┘ will scroll through the following settings:

**HEADLAMP DELAY: 10 SEC (Seconds) (default):** The headlamps will stay on for 10 seconds.

**HEADLAMP DELAY: 20 SEC:** The headlamps will stay on for 20 seconds.

**HEADLAMP DELAY: 40 SEC:** The headlamps will stay on for 40 seconds.

**HEADLAMP DELAY: 1 MIN (Minute):** The headlamps will stay on for 1 minute.

**HEADLAMP DELAY: 2 MIN:** The headlamps will stay on for 2 minutes.

**HEADLAMP DELAY: 3 MIN:** The headlamps will stay on for 3 minutes.

**HEADLAMP DELAY: OFF:** The headlamps will not turn on.

To select a setting and move on to the next feature, press i while the desired setting is displayed on the DIC.

## Perimeter Lights

Press i until PERIMETER LIGHTS: ON appears in the display. To select your preference for perimeter lighting, press ◄┘ while PERIMETER LIGHTS: ON is displayed on the DIC. Pressing ◄┘ will scroll through the following settings:

**PERIMETER LIGHTS: ON (default):** The headlamps and back-up lamps will come on for 40 seconds, if it is dark enough outside, when you unlock the vehicle with the Remote Keyless Entry (RKE) transmitter.

**PERIMETER LIGHTS: OFF:** The perimeter lights will not come on when you unlock the vehicle with the RKE transmitter.

To select a setting and move on to the next feature, press i while the desired setting is displayed on the DIC.

## Easy Exit Seat

Press i until EASY EXIT SEAT: OFF appears in the display. To select your preference for seat position exit, press ◄┘ while EASY EXIT SEAT: OFF is displayed on the DIC. Pressing ◄┘ will scroll through the following settings:

**EASY EXIT SEAT: OFF (default):** No seat exit recall will occur.

**EASY EXIT SEAT: ON:** The driver's seat will move to the exit position when the key is removed from the ignition.

To select a setting and move on to the next feature, press i while the desired setting is displayed on the DIC.

See "Easy Exit Seat" under *Memory Seat on page 1-5* for more information.

## Seat Recall

Press i until SEAT RECALL: OFF appears in the display. To select your preference for recall of the driver's memory seat and adjustable pedals, if your vehicle has this feature, press ◄┘ while SEAT RECALL: OFF is displayed on the DIC. Pressing ◄┘ will scroll through the following settings:

**SEAT RECALL: OFF (default):** The driver's memory seat and adjustable pedals position you saved will only be recalled when the memory button 1 or 2 is pressed.

**SEAT RECALL: AT KEY IN:** The driver's memory seat and adjustable pedals position you saved will be recalled when you put the key in the ignition.

**SEAT RECALL: ON REMOTE:** The driver's memory seat and adjustable pedals position you saved will be recalled when you unlock the vehicle with the Remote Keyless Entry (RKE) transmitter. Whichever position, 1 or 2, you programmed with the transmitter being used to unlock the vehicle is the one that will be recalled.

To select a setting and move on to the next feature, press i while the desired setting is displayed on the DIC.

See "Easy Exit Seat" under *Memory Seat on page 1-5* for more information.

## Alarm Warning

Press i until ALARM WARNING: BOTH appears in the display. To select your preference for alarm warning, press ◄┘ while ALARM WARNING: BOTH is displayed on the DIC. Pressing ◄┘ will scroll through the following settings:

**ALARM WARNING: BOTH (default):** The headlamps will flash and the horn will chirp when the alarm is active.

**ALARM WARNING: HORN:** The horn will chirp when the alarm is active.

**ALARM WARNING: LAMPS:** The headlamps will flash when the alarm is active.

**ALARM WARNING: OFF:** There will be no alarm warning on activation.

To select a setting and move on to the next feature, press i while the desired setting is displayed on the DIC.

See *Content Theft-Deterrent on page 2-17* for more information.

## Language

Press i until LANGUAGE: ENGLISH appears in the display. To select your preference for display language, press ◄┘ while LANGUAGE: ENGLISH is displayed on the DIC. Pressing ◄┘ will scroll through the following settings:

**ENGLISH (default):** All messages will appear in English.

**FRANCAIS:** All messages will appear in French.

**ESPANOL:** All messages will appear in Spanish.

To select a setting and move on to the next feature, press i while the desired setting is displayed on the DIC.

If you accidentally choose a language that you do not want or understand, press and hold i and the trip information button at the same time. The DIC will begin scrolling through the languages in their particular language. English will be in English, Francais will be in French, and Espanol will be in Spanish. When you see the language that you would like, release both buttons. The DIC will then display the information in the language you chose.

You can also scroll through the different languages by pressing and holding the trip reset stem for four seconds, as long as you are in the odometer mode.

### Units

Press i until UNITS: U.S. (ENGLISH) appears in the display. To select the units of measurement in which the DIC will display vehicle information, press ◄┘ while UNITS: U.S. (ENGLISH) is displayed on the DIC. Pressing ◄┘ will scroll through the following settings:

**UNITS: U.S. (ENGLISH) (default):** All information will be displayed in English units.

**UNITS: METRIC (km/L):** All information will be displayed in metric units.

**UNITS: METRIC (L/100 km):** All information will be displayed in metric units.

To select a setting and exit out of the customizable options, press i while the desired setting is displayed on the DIC.

# Audio System(s)

Determine which radio the vehicle has and read the following pages to become familiar with its features.

**⚠ CAUTION:**

Taking your eyes off the road for extended periods could cause a crash resulting in injury or death to you or others. Do not give extended attention to entertainment tasks while driving.

This system provides access to many audio and non audio listings.

To minimize taking your eyes off the road while driving, do the following while the vehicle is parked:

- Become familiar with the operation and controls of the audio system.
- Set up the tone, speaker adjustments, and preset radio stations.

For more information, see *Defensive Driving on page 4-2*.

***Notice:*** **Contact your dealer/retailer before adding any equipment.**

**Adding audio or communication equipment could interfere with the operation of the vehicle's engine, radio, or other systems, and could damage them. Follow federal rules covering mobile radio and telephone equipment.**

***Notice:*** **The chime signals related to safety belts, parking brake, and other functions of your vehicle operate through the radio/entertainment system. If that equipment is replaced or additional equipment is added to your vehicle, the chimes may not work. Make sure that replacement or additional equipment is compatible with your vehicle before installing it. See *Accessories and Modifications on page 5-3*.**

The vehicle has Retained Accessory Power (RAP). With RAP, the audio system can be played even after the ignition is turned off. See *Retained Accessory Power (RAP) on page 2-23* for more information.

## Setting the Clock

The clock can be set with the ignition on or off.

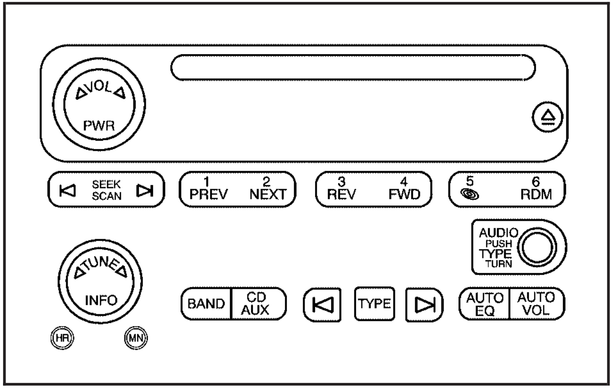
The radio may have a button marked with an H or HR to represent hours and an M or MN to represent minutes.

Press and hold the hour button until the correct hour displays. AM or PM displays for morning or evening hours. Press and hold the minute button until the correct minute displays.

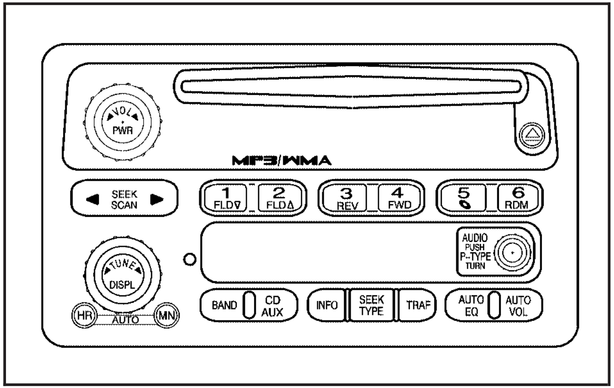
To synchronize the time with an FM station broadcasting Radio Data System (RDS) information, press and hold the hour and minute buttons at the same time until UPDATED and the clock symbol appear on the display. If the time is not available from the station, NO UPDATE or NO UPDAT will appear on the display.

RDS time is broadcast once a minute. After tuning to an RDS broadcast station, it could take a few minutes for the time to update.

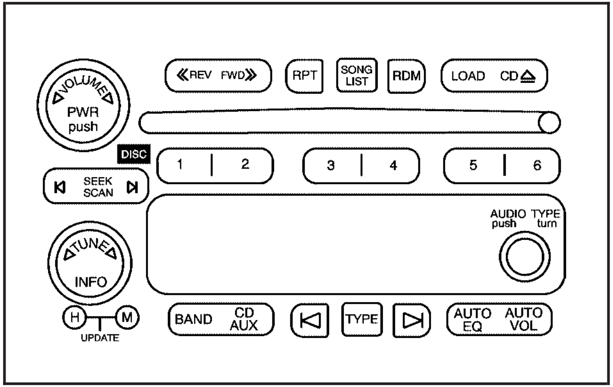
# Radio(s)




Base Radio Shown, Bose® Similar




Base MP3 Radio shown, Bose® similar




**Base Six-Disc CD Radio shown, Bose® similar**

The vehicle has one of these radios as its audio system.

If the vehicle has the Bose® audio system, it has six Bose® amplified speakers.

## Radio Data System (RDS)

The audio system has a Radio Data System (RDS). RDS features are available for use only on FM stations that broadcast RDS information.

With RDS, the radio can do the following:

- Seek to stations broadcasting the selected type of programming.
- Receive announcements concerning local and national emergencies.
- Display messages from radio stations.

This system relies upon receiving specific information from these stations and only works when the information is available. In rare cases, a radio station can broadcast incorrect information that causes the radio features to work improperly. If this happens, contact the radio station.

While the radio is tuned to an RDS station, the station name or call letters display instead of the frequency. RDS stations can also provide the time of day, a program type (PTY) for current programming, and the name of the program being broadcast.

## Playing the Radio

**PWR (Power):** Push to turn the system on and off.

◁ ▷ **VOL or VOLUME:** Turn to increase or to decrease the volume.

**DISPL (Display) or INFO (Information):** Press to display the time while the ignition is off.

For RDS, press to change the information while using RDS. The display options are station name, RDS station frequency, PTY (program type), and the name of the program (if available).

For XM, press to retrieve four different categories of information related to the current song or channel: Artist, Song Title, Category or PTY, Channel Number/Channel Name.

To change the default on the display, press the DISPL or INFO knob until the desired display is shown, then briefly press and hold the knob until a beep is heard. The selected display becomes the default.

**AUTO VOL (Automatic Volume):** With automatic volume, the audio system adjusts automatically to make up for road and wind noise while driving by increasing the volume as vehicle speed increases.

Set the volume at the desired level. Press this button to select LOW, MEDIUM, or HIGH. AVOL, or depending on the radio, MIN, MED, or MAX. AUTO VOL. Each higher setting provides more volume compensation at faster vehicle speeds. On some radios, NONE may display if the radio cannot determine the vehicle speed. To turn automatic volume off, press this button until OFF, AVOL OFF, or AUTO VOL OFF displays.

## Finding a Station

**BAND:** Press to choose between FM1, FM2, AM, or XM1 or XM2.

**◁ TUNE ▷:** Turn to select radio stations.

**◁▷ / ⏮ ⏭ SEEK:** Press either SEEK arrow, or depending on the radio, SEEK or TYPE arrow to go to the previous or to the next station and stay there.

The radio only seeks stations with a strong signal that are in the selected band.

**⏮ SCAN ⏭ :** Press and hold either SCAN arrow, or depending on the radio, SCAN or TYPE arrow briefly until SCAN or SCN displays and a beep is heard. The radio goes to a station, plays for a few seconds, then goes to the next station. Press either arrow again to stop scanning.

To scan preset stations, press and hold either SCAN arrow, or depending on the radio, SCAN or TYPE arrow for more than four seconds. PSCN or PSC displays and a double beep is heard. The radio goes to a preset station, plays for a few seconds, then goes to the next preset station. Press either arrow again to stop scanning presets.

The radio only scans stations with a strong signal that are in the selected band.

## Setting Preset Stations

Up to 30 stations (six FM1, six FM2, and six AM, six XM1 and six XM2, can be programed on the six numbered pushbuttons, by performing the following steps:

1. Turn the radio on.
2. Press BAND to select FM1, FM2, AM, or XM1 or XM2.
3. Tune in the desired station.
4. Press and hold one of the six numbered pushbuttons until a beep sounds. When that numbered pushbutton is pressed, the station that was set, returns.
5. Repeat Steps 2 through 4 for each pushbutton.

To store an equalization setting to a preset station perform the following:

1. Tune to the preset station.
2. Press and release the AUTO EQ button to select the equalization setting.

   Once the equalization no longer displays, the equalization is set for that preset station.

## Setting the Tone (Bass/Midrange/Treble)

**AUDIO:** Press and turn to adjust the Tone.

1. Push and release until BASS, MID (midrange) (without Bose®), or TREB (treble) displays.
2. Turn to increase or to decrease the tone.

The display shows the bass, midrange (without Bose®), or treble level. If a station is weak or has static, decrease the treble.

To adjust the bass, midrange (without Bose®), or treble to the middle position while it is displayed, push and hold AUDIO. The radio produces one beep and adjusts the display level to the middle position.

To adjust all tone and speaker controls to the middle position, push and hold AUDIO when no tone or speaker controls displays. ALL CENTERED displays and a beep is heard.

**AUTO EQ (Automatic Equalization):** Press to select customized equalization settings designed for country/western, jazz, talk, pop, rock, and classical.

To return the bass and treble to the manual mode, push and release this button until CUSTOM displays.

The radio saves separate AUTO EQ settings for each preset and source.

If the radio has the Bose® audio system, the equalization settings are either CUSTOM or TALK.

## Adjusting the Speakers (Balance/Fade)

**AUDIO:** Press and turn to adjust the speakers.

To adjust the balance between the right and the left speakers:

1. Push and release until BAL (balance) displays.
2. Turn to move the sound toward the right or the left speakers.

To adjust the fade between the front and rear speakers:

1. Push and release this knob until FADE or FAD displays.
2. Turn to move the sound toward the front or the rear speakers.

To adjust the balance or the fade to the middle position while it is displayed, push and hold the AUDIO knob. On some radios, push the AUDIO knob, then push it again and hold it until one beep is heard.

To adjust all tone and speaker controls to the middle position, push and hold the AUDIO knob when no tone or speaker controls display. ALL CENTERED displays and a beep is heard.

## Finding a Program Type (PTY) Station (RDS and XM)

To select and find a desired PTY

1. Press the TYPE button to activate program type select mode. TYPE or P-TYPE and the last selected PTY displays.
2. Turn the TYPE knob or press and release the TYPE button to select a PTY.
3. Press either SEEK or TYPE arrow to select and to go to the PTY's first station.
4. To go to another station within that PTY, press the TYPE button, then press either SEEK or TYPE arrow once.
5. Press either SEEK or TYPE arrow twice to exit the program type select mode.

If the radio cannot find the desired program type, NONE displays and the radio returns to the last station that was playing.

**SCAN:** To scan the stations within a PTY for all Radios except the MP3 Radio:

1. Press the TYPE button to activate program type select mode. TYPE or P-TYPE and the last selected PTY displays.
2. Turn the TYPE knob or press and release the TYPE button to select a PTY.
3. Once the desired PTY displays, press and hold either SCAN or TYPE arrow for two seconds, and the radio begins scanning the stations in the PTY.
4. Press either SCAN or TYPE arrow to stop scanning.

To select and find a desired PTY for the MP3 Radio:

1. Turn the P-TYPE knob to select a PTY.
2. Press the SEEK TYPE button to select and go to the PTY's first station.
3. Press the SEEK TYPE button twice to display the PTY and then go to another station.
4. Press the P-TYPE knob to exit program type select mode.

   IF PTY times out and no longer displays, go back to Step 1.

If both PTY and TRAF are on, the radio searches for stations with the selected PTY and traffic announcements.

If the radio cannot find the desired program type, NONE displays and the radio returns to the last station.

**BAND (Alternate Frequency):** Alternate frequency lets the radio switch to a stronger station with the same program type. To turn alternate frequency on, press and hold BAND for two seconds. AF ON displays. The radio can switch to stations with a stronger frequency.

To turn alternate frequency off, press and hold BAND again for two seconds. AF OFF displays. The radio does not switch to other stations.

This function does not apply for XM™ Satellite Radio Service.

## Setting Preset PTYs (RDS Only)

For the Base Radio, pushbuttons have factory PTY presets. Up to 12 PTYs (six FM1 and six FM2), can be programmed on the six numbered pushbuttons, by performing the following steps:

1. Press BAND to select FM1 or FM2.
2. Press the TYPE button to activate program type select mode. P-TYPE and the last selected PTY displays.
3. Turn the TYPE knob or press and release the TYPE button to select a PTY.
4. Press and hold one of the six numbered pushbuttons until a beep sounds. When that numbered pushbutton is pressed (while in PTY mode), the PTY that was set, returns.
5. Repeat the steps for each pushbutton.

## RDS Messages

**ALERT! (MP3 Radio):** Alert warns of local or national emergencies. When an alert announcement comes on the current radio station, ALERT! displays. The announcement is heard, even if the volume is low or a CD is playing. If a CD is playing, play stops during the announcement. Alert announcements cannot be turned off.

ALERT! is not affected by tests of the emergency broadcast system. This feature is not supported by all RDS stations.

**TRAF (Traffic) (MP3 Radio):** If TRAF displays, the tuned station broadcasts traffic announcements and the traffic announcement is played when the tuned radio station broadcasts one.

If the station does not broadcast traffic announcements, press the TRAF button and the radio seeks to a station that does. When a station that broadcasts traffic announcements is found, the radio stops seeking and TRAF displays. If no station is found that broadcasts traffic announcements, No Traf displays.

If TRAF displays, press the TRAF button to turn off the traffic announcements.

The radio plays the traffic announcement if the volume is low. The radio interrupts the play of a CD if the last tuned station broadcasts traffic announcements.

This function does not apply to XM Satellite Radio Service.

**INFO (Information):** If the current station has a message, the information symbol or INFO displays. Press this button to see the message. The message can display the artist, song title, call in phone numbers, etc.

If the entire message is not displayed, parts of the message appears every three seconds. To scroll through the message, press and release the INFO button. A new group of words displays after every press of this button. Once the complete message has displayed, the information symbol or INFO disappears from the display until another new message is received. The last message is displayed by pressing the INFO button. View the last message until a new message is received or a different station is tuned to.

## Radio Messages

**CAL ERR (Calibration Error):** Displays if the radio is no longer calibrated properly for the vehicle. The vehicle must be returned to your dealer/retailer for service.

**LOCKED:** Displays when the THEFTLOCK® system has activated. Take the vehicle to your dealer/retailer for service.

If any error occurs repeatedly, or if an error cannot be corrected, contact your dealer/retailer.

## XM™ Satellite Radio Service

XM is a satellite radio service that is based in the 48 contiguous United States and 10 Canadian provinces. XM Satellite Radio has a wide variety of programming and commercial-free music, coast-to-coast, and in digital-quality sound. During your trial or when you subscribe, you will get unlimited access to XM Radio Online for when you are not in the vehicle. A service fee is required to receive the XM service. For more information, contact XM at xmradio.com or call 1-800-929-2100 in the U.S. and xmradio.ca or call 1-877-438-9677 in Canada.

### Radio Messages for XM Only

See *XM Radio Messages on page 3-84* later in this section for further detail.

## Playing a CD

Insert a CD partway into the slot, label side up. The player pulls it in and the CD should begin playing.

For the Base Radio, first press the eject button or the INFO knob to insert a CD with the ignition off.

If the ignition or radio is turned off, with a CD in the player, it stays in the player. When the ignition or radio is turned on, the CD starts playing where it stopped, if it was the last selected audio source.

When a CD is inserted, the CD symbol displays. As each new track starts to play, the track number displays.

The CD player can play the smaller 3 inch (8 cm) single CDs with an adapter ring. Full-size CDs and the smaller CDs are loaded in the same manner.

## Care of CDs

Sound quality can be reduced due to CD-R quality, the method of recording, the quality of the music that has been recorded, and the way the CD-R has been handled. Handle them carefully. Store CD-R(s) in their original cases or other protective cases and away from direct sunlight and dust. The CD player scans the bottom surface of the disc. If the surface of a CD is damaged, such as cracked, broken, or scratched, the CD does not play properly or not at all. Do not touch the bottom side of a CD while handling it; this could damage the surface. Pick up CDs by grasping the outer edges or the edge of the hole and the outer edge.

If the surface of a CD is soiled, take a soft, lint free cloth or dampen a clean, soft cloth in a mild, neutral detergent solution mixed with water, and clean it. Make sure the wiping process starts from the center to the edge.

## Care of the CD and DVD Player

Do not add a label to a CD, it could get caught in the CD player. If a CD is recorded on a personal computer and a description label is needed, try labeling the top of the recorded CD with a marking pen.

The use of CD lens cleaners for CDs is not advised, due to the risk of contaminating the lens of the CD optics with lubricants internal to the CD and DVD player mechanism.

***Notice:*** **If a label is added to a CD, or more than one CD is inserted into the slot at a time, or an attempt is made to play scratched or damaged CDs, the CD player could be damaged. While using the CD player, use only CDs in good condition without any label, load one CD at a time, and keep the CD player and the loading slot free of foreign materials, liquids, and debris.**

If an error displays, see “CD Messages” later in this section.

For vehicles that have a radio with a Six-Disc CD player, see the following:

**LOAD:** Press to load CDs into the CD player. This CD player holds up to six CDs.

To insert one CD:

1. Turn the ignition on.
2. Press and release the LOAD button.
3. Wait for the indicator light, located to the right of the slot, to turn green.
4. Load a CD. Insert the CD part way into the slot, label side up. The player pulls the CD in.

To insert multiple CDs:

1. Turn the ignition on.
2. Press and hold the LOAD button for two seconds.

   A beep sounds and the indicator light, located to the right of the slot, begins to flash and MULTI LOAD # displays.
3. Once the light stops flashing and turns green, INSERT CD # displays, load a CD. Insert the CD part way into the slot, label side up. The player pulls the CD in.

   Once the CD is loaded, the indicator light begins flashing again. Once the light stops flashing and turns green, load another CD. The CD player takes up to six CDs. Do not try to load more than six.

To load more than one CD but less than six, complete Steps 1 through 3. When finished loading CDs, press the LOAD button to cancel the loading function. The radio begins to play the last CD loaded.

If more than one CD has been loaded, a number for each CD displays.

## Playing a Specific Loaded CD

For every CD loaded, a number displays. To play a specific CD, first press the CD AUX button (if not already in CD mode), then press the numbered pushbutton that corresponds to the CD. A small bar displays under the CD number that is playing and the track number displays.

⏏ **(Eject) (Base or MP3 Radio):** Press to eject a CD. Eject can be activated with either the ignition or radio off. CDs can be loaded with the radio and ignition off if this button is pressed first.

**CD ⏏ (Eject):** Press to eject CD(s).

To eject the CD that is currently playing, press and release this button.

To eject multiple CDs:

1. Press and hold the ⏏ button for two seconds.

   A beep is heard and the indicator light, located to the right of the slot, begins to flash and EJECT ALL displays.
2. Once the light stops flashing, REMOVE CD # displays. The CD ejects and can be removed.

   Once the CD is removed, the indicator light begins flashing again and another CD ejects.

   To stop ejecting the CDs, press the ⏏ button.

If the CD is not removed, after 25 seconds, the CD automatically pulls back into the player. If CD is pushed back into the player, before the 25-second time period is complete, the player senses an error and tries to eject the CD several times before stopping.

Do not repeatedly press the ⏏ button to eject a CD after pushing it in manually. The player's 25-second eject timer resets at each press of eject, causing the player to not eject the CD until the 25-second time period has elapsed.

**1 FLD ▽ (Previous) (MP3 Radio):** This pushbutton does not work while using a non-MP3 CD.

**2 FLD △ (Next) (MP3 Radio):** This pushbutton does not work while using a non-MP3 CD.

**1 PREV (Previous) (Base Radio):** Press to go to the beginning of the current track (if more than eight seconds have played), or to the beginning of the previous track (if less than eight seconds have played). TRACK and the track number displays. If this pushbutton is held or pressed more than once, the player continues moving backward through the CD.

**2 NEXT (Base Radio):** Press to go to the next track. TRACK and the track number displays. If this pushbutton is held or pressed more than once, the player continues moving forward through the CD.

**≪ REV or 3 REV (Reverse):** Press and hold to reverse quickly within a track.

For the Base Radio, press and hold for less than two seconds to reverse at six times the normal playing speed. Press and hold it for more than two seconds to reverse at 17 times the normal playing speed.

Sound is heard at a reduced volume. Release this button to play the passage. ET and/or the elapsed time of the track displays.

**FWD ≫ or 4 FWD (Forward):** Press and hold to advance quickly within a track.

For the Base Radio, press and hold for less than two seconds to advance at six times the normal playing speed. Press and hold it for more than two seconds to advance at 17 times the normal playing speed.

Sound is heard at a reduced volume. Release this button to play the passage. ET and/or the elapsed time of the track displays.

**5 💿 (CD):** Press to play a CD while listening to the radio. The CD symbol displays when a CD is loaded.

**RPT (Repeat):** With the repeat setting, one track or an entire CD can be repeated.

To use repeat, do the following:

- To repeat a track, press and release the RPT button. RPT displays. Press again to turn off repeat play.
- To repeat the CD, press and hold the RPT button for two seconds. RPT displays. Press again to turn off repeat play.

**6 RDM (Random) (Base Radio or MP3 Radio):** Press to hear the tracks in random, rather than sequential, order. RDM ON displays. RDM T or RDM and the track number displays when each track starts to play. Press again to turn off random play. RDM OFF displays.

**RDM (Random):** With the random setting, tracks can be listened to in random, rather than sequential, order, on one CD or on all of the CDs. To use random, do one of the following:

- To play the tracks on the CD in random order, press and release the RDM button. RANDOM ONE displays. Press again to turn off random play.
- To play the tracks on all of the CDs that are loaded in random order, press and hold RDM for more than two seconds. A beep sounds and RANDOM ALL displays. Press again to turn off random play.

**AUTO EQ (Automatic Equalization):** Press to select the equalization setting while playing a CD. The equalization is stored when a CD is played. For more information on AUTO EQ, see "AUTO EQ" listed previously in this section.

**⧏ ⧐ / ◁ ▷ SEEK:** Press the left arrow to go to the start of the current or to the previous track.

On some radios, pressing the left arrow, if more than 10 seconds have played, goes to the start of the current track.

Press the right arrow to go to the start of the next track. If either arrow is pressed more than once, the player continues moving backward or forward through the CD.

On some radios, pressing either arrow for more than two seconds scans the previous or next tracks at five to eight seconds per track. SCAN and the track number displays.

**⧏ SCAN ⧐ :** To scan one CD, press and hold either SCAN, or depending on the radio, the TYPE arrow for more than two seconds until SCAN or TRACK SCAN displays and a beep is heard. The radio goes to the next track, plays for 10 seconds, then goes to the next track. Press either SCAN or depending on the radio, TYPE arrow again, to stop scanning.

To scan all loaded CDs, press and hold either SCAN arrow for more than four seconds until ALL CD SCAN displays and a beep sounds. Use this feature to listen to 10 seconds of the first track of each loaded CD. Press either SCAN arrow again, to stop scanning.

**◁ TUNE ▷ (MP3 Radio):** Turning this knob fast tracks reverse or advances through tracks. The track number displays for each track.

**DISPL (Display) or INFO (Information):** Press to see how long the current track has been playing. ET and/or the elapsed time displays. To change the default on the display, track, or elapsed time, press until the desired display appears, then press and hold briefly until a beep sounds. The selected display becomes the default.

**BAND:** Press to listen to the radio when a CD is playing. The inactive CD(s) remains inside the radio for future listening.

**CD AUX (Auxiliary):** Press to play a CD while listening to the radio, or to listen to an auxiliary source (such as rear seat entertainment, if equipped).

## Using Song List Mode

The six-disc CD changer has a feature called song list. This feature is capable of saving 20 track selections.

To save tracks into the song list feature:

1. Turn the CD player on and load it with at least one CD. See “LOAD CD” listed previously in this section for more information.
2. Check to see that the CD changer is not in song list mode. S-LIST should not appear on the display. If S-LIST displays, press the SONG LIST button to turn it off.
3. Select the desired CD by pressing the numbered pushbutton and then use the right SEEK or TYPE arrow to locate the track to be saved. The track begins to play.
4. Press and hold the SONG LIST button to save the track into memory. When SONG LIST is pressed, one beep sounds. After two seconds of continuously pressing the SONG LIST button, two beeps sound to confirm the track has been saved.
5. Repeat Steps 3 and 4 for saving other selections.

S-LIST FULL displays if more than 20 selections are saved.

To play the song list, press the SONG LIST button. One beep sounds and S-LIST displays. The recorded tracks begin to play in the order they were saved.

Seek through the song list by using either SEEK or TYPE arrow. Seeking past the last saved track returns to the first saved track.

To delete tracks from the song list:

1. Turn the CD player on.
2. Press the SONG LIST button to turn song list on. S-LIST displays.
3. Press either SEEK or TYPE arrow to select the desired track to be deleted.
4. Press and hold the SONG LIST button for two seconds. When SONG LIST is pressed, one beep sounds. After two seconds of continuously pressing the SONG LIST button, two beeps sound to confirm that the track has been deleted.

After a track has been deleted, the remaining tracks are moved up the list. When another track is added to the song list, the track is added to the end of the list.

To delete the entire song list:

1. Turn the CD player on.
2. Press the SONG LIST button to turn song list on. S-LIST displays.
3. Press and hold the SONG LIST button for more than four seconds. One beep sounds, followed by two beeps after two seconds, and a final beep sounds after four seconds. S-LIST EMPTY displays indicating the song list has been deleted.

If a CD is ejected, and the song list contains saved tracks from that CD, those tracks are automatically deleted from the song list. Any tracks saved to the song list again are added to the bottom of the list.

To end song list mode, press the SONG LIST button. One beep sounds and S-LIST is removed from the display.

## Playing an MP3/WMA CD-R Disc

The vehicle's radio system may have the MP3/WMA feature. If it has this feature, it is capable of playing an MP3/WMA CD-R disc. For more information on how to play an MP3/WMA CD-R disc, see *Using an MP3 on page 3-80* later in this section.

## CD Messages

**CHECK CD:** If this message displays and/or the CD ejects, it could be for one of the following reasons:

- It is very hot. When the temperature returns to normal, the CD should play.
- The road is very rough. When the road becomes smoother, the CD should play.
- The CD is dirty, scratched, wet, or upside down.
- The air is very humid. If so, wait about an hour and try again.
- There could have been a problem while burning the CD.
- The label could be caught in the CD player.

If the CD is not playing correctly, for any other reason, try a known good CD.

If any error occurs repeatedly or if an error cannot be corrected, contact your dealer/retailer. If the radio displays an error message, write it down and provide it to your dealer/retailer when reporting the problem.

## Listening to a DVD

If the vehicle has the Rear Seat Entertainment (RSE) system and a DVD is playing, the DVD symbol displays indicating that the DVD is available and can be listened to through the vehicle's speakers.

To listen to the DVD, press the CD AUX button until RSE displays. The current radio source stops and the DVD sound comes through the speakers.

To stop listening to the DVD, press the CD AUX button, if a CD is loaded, or press the BAND button to select a different source.

When the RSE system is turned off, the DVD symbol goes off of the radio display and RSE OFF displays. The radio returns to the last radio source that was playing. See *Rear Seat Entertainment (RSE) System on page 3-96* for more information.

# Using an MP3

## MP3/WMA Disc

### MP3/WMA Format

If you burn an MP3 disc on a personal computer:

- Make sure the MP3 files are recorded on a CD-R disc.
- Standard audio, MP3 files, and WMA files can be mixed on one CD.
- Make sure playlists have a .mp3 or .wpl extension, other file extensions might not work.
- Files can be recorded with a variety of fixed or variable bit rates. Song title, artist name, and album is available for display by the radio when recorded using ID3 tags version 1 and 2.
- Create a folder structure that makes it easy to find songs while driving. Organize songs by albums using one folder for each album. Each folder or album should contain 18 songs or less.
- Make sure to finalize the disc when burning an MP3 disc, using multiple sessions. It is usually better to burn the disc all at once.

The player is able to read and play a maximum of 253 folders, 50 playlists, 20 sessions, and 949 files. Long file names, folder names, or playlist names may use more disc memory space than necessary. To conserve space on the disc, minimize the length of the file, folder, or playlist names. An MP3 CD that was recorded using no file folders can also be played. The system can support up to 11 folders in depth, though, keep the depth of the folders to a minimum in order to keep down the complexity and confusion in trying to locate a particular folder during playback. If a CD contains more than the maximum of 253 folders, 50 playlists, 20 sessions, and 949 files, the player allows access and navigates up to the maximum, but all items over the maximum will not play.

### Root Directory

The root directory is treated as a folder. If the root directory has compressed audio files, the directory displays as F1 ROOT. All files contained directly under the root directory are accessed prior to any root directory folders. However, playlists (Px) are always accessed before root folders or files.

### Empty Directory or Folder

If a root directory or a folder exists somewhere in the file structure that contains only folders/subfolders and no compressed files directly beneath them, the player advances to the next folder in the file structure that contains compressed audio files. The empty folder does not display.

## No Folder

When the CD contains only compressed files, the files are located under the root folder. The next and previous folder functions do not function on a CD that was recorded without folders or playlists. When displaying the name of the folder the radio displays ROOT.

When the CD contains only playlists and compressed audio files, but no folders, all files are located under the root folder. The folder down and the folder up buttons search playlists (Px) first and then goes to the root folder. When the radio displays the name of the folder the radio displays ROOT.

## Order of Play

Tracks are played in the following order:

- If CD audio tracks are available they will be played first, otherwise play begins from the first track in the first playlist and continues sequentially through all tracks in each playlist. When the last track of the last playlist has played, play continues from the first track of the first playlist.
- If the CD does not contain any playlists, then play begins from the first track under the root directory. When all tracks from the root directory have played, play continues from files according to their numerical listing. After playing the last track from the last folder, play begins again at the first track of the first folder or root directory.

When play enters a new folder, the display does not automatically show the new folder name unless the folder mode has been chosen as the default display. See DISPL (display) later in this section for more information. The new track name displays.

## File System and Naming

The song name that displays is the song name that is contained in the ID3 tag. If the song name is not present in the ID3 tag, then the radio displays the file name without the extension (such as .mp3) as the track name.

Track names longer than 32 characters or four pages are shortened. Parts of words on the last page of text and the extension of the file name does not display.

## Preprogrammed Playlists

Preprogrammed playlists that were created using WinAmp™, MusicMatch™, or Real Jukebox™ software can be accessed, however, they cannot be edited using the radio. These playlists are treated as special folders containing compressed audio song files.

## Playing an MP3/WMA

Insert a CD partway into the slot, label side up. The player pulls it in, and READING displays. The CD should begin playing and the CD symbol displays. To insert a CD while the ignition is off, first press the ⏏ button or the DISPL knob.

If the ignition or radio is turned off with a CD in the player it stays in the player. When the ignition or radio is turned on, the CD starts to play where it stopped, if it was the last selected audio source.

As each new track starts to play, the track number and song title displays.

**1 FLD ▽ (Previous Folder):** Press to go to the first track in the previous folder. Press 1 FLD ▽ while in folder random mode to go to the first track in the previous folder and random the tracks in that folder.

**2 FLD △ (Next Folder):** Press to go to the first track in the next folder. Press 2 FLD △ while in folder random mode to go to the first track in the next folder and random the tracks in that folder.

**3 REV (Reverse):** Press and hold to reverse quickly within a track. Press and hold 3 REV for less than two seconds to reverse at 10 times the normal playing speed. Press and hold 3 REV for more than two seconds to reverse at 20 times the normal playing speed. Release 3 REV to play the passage. REV and the elapsed time of the track displays.

**4 FWD (Forward):** Press and hold to advance quickly within a track. Press and hold 4 FWD for less than two seconds to advance at 10 times the normal playing speed. Press and hold 4 FWD for more than two seconds to advance at 20 times the normal playing speed. Release 4 FWD to play the passage. FWD and the elapsed time of the track displays.

**6 RDM (Random):** Press and release to play the tracks of a current folder or playlist, in random order. FLDR RDM displays. Once all of the tracks a current folder or playlist have played the system moves on to the next folder or playlist and play all of the tracks in random order.

To play all tracks on the CD in random order, press and hold 6 RDM for two seconds. A beep sounds and DISC RDM displays. This feature does not work with playlists.

When in random, press and release either SEEK arrow to go to the next or previous random track.

Press and release 6 RDM again to turn off random play. NO RDM displays.

◁ **SEEK** ▷**:** Press the left SEEK arrow to go to the start of the previous track. Press the right SEEK arrow to go to the start of the next track. Press either SEEK arrow for more than two seconds to search the previous or next tracks at two tracks per second. Release the button to stop searching and to play the track.

◁ **TUNE** ▷**:** Turn to fast track reverse or advance through the tracks in all folders or playlists. The track number and file name displays for each track. Turn ◁ TUNE ▷ while in random to fast track reverse or advance the tracks in sequential order.

**DISPL (Display):** Press to switch between track mode, folder/playlist mode, and time of day mode. The display shows only eight characters, but there can be up to four pages of text. If there are more than eight characters in the song, folder, or playlist name, they are displayed if DISPL is not pressed again, pressing DISPL within two seconds goes to the next display mode.

- Track mode displays the current track number and the ID3 tag song name.
- Folder/playlist mode displays the current folder or playlist number and the folder/playlist name.
- Time of day mode displays the time of day and the ID3 tag song name.

To change the default on the display, press the DISPL knob until the desired display appears, then press and hold this knob for two seconds. The radio produces one beep and the selected display becomes the default.

**INFO (Information):** INFO displays when a current track has ID3 tag information. Press INFO to display the artist name and album contained in the tag. INFO disappears from the display when the information in the ID3 tag has finished.

**BAND:** Press to listen to the radio when a CD is playing. The inactive CD remains inside the radio for future listening.

**CD AUX (Auxiliary):** Press to play a CD when listening to the radio. The CD symbol displays when a CD is loaded.

⏏ **(Eject):** Press to eject a CD. Eject can activate while either the ignition or the radio is off. CDs can be loaded while the ignition and the radio is off if this button is pressed first.

# XM Radio Messages

**xL (Explicit Language Channels):** These channels, or any others, can be blocked by calling 1-800-852-XMXM (9696).

**Updating:** The encryption code in the receiver is being updated, and no action is required. This process should take no longer than 30 seconds.

**No Signal:** The system is functioning correctly, but the vehicle is in a location that is blocking the XM signal. When the vehicle is moved into an open area, the signal should return.

**No Signl:** The system is functioning correctly, but the vehicle is in a location that is blocking the XM signal. When the vehicle is moved into an open area, the signal should return.

**Loading XM:** The audio system is acquiring and processing audio and text data. No action is needed. This message should disappear shortly.

**Loading:** The radio system is acquiring and processing audio and text data. No action is needed. This message should disappear shortly.

**CH Off Air:** This channel is not currently in service. Tune in to another channel.

**Off Air:** This channel is not currently in service. Tune to another channel.

**CH Unauth:** This channel is blocked or cannot be received with your XM Subscription package.

**Unauth:** This channel is blocked or cannot be received with your XM Subscription package.

**CH Unavail:** This previously assigned channel is no longer assigned. Tune to another station. If this station was one of the presets, choose another station for that preset button.

**CH Unavl:** This previously assigned channel is no longer assigned. Tune to another station. If this station was one of the presets, choose another station for that preset button.

**No Info:** No artist, song title, category, or text information is available at this time on this channel. The system is working properly.

**Not Found:** There are no channels available for the selected category. The system is working properly.

**XM Locked:** The XM receiver in the vehicle may have previously been in another vehicle. For security purposes, XM receivers cannot be swapped between vehicles. If this message is received after having the vehicle serviced, check with your dealer/retailer.

**XM Lock:** The XM receiver in your vehicle could have previously been in another vehicle. For security purposes, XM receivers cannot be swapped between vehicles. If this message is received after having your vehicle serviced, check with your dealer/retailer.

**Radio ID:** If tuned to channel 0, there could be a receiver fault., this message will alternate with the XM Radio 8 digit radio ID label. This label is needed to activate the service. Consult with your dealer/retailer.

**Unknown:** If this message is received when tuned to channel 0, there could be a receiver fault. Consult with your dealer/retailer.

**Chk XMRcvr:** If this message does not clear within a short period of time, the receiver may have a fault. Consult with your dealer/retailer.

**Check XM:** If this message does not clear within a short period of time, the receiver could have a fault. Consult with your dealer/retailer.

## Navigation/Radio System

For vehicles with a navigation radio system, see the separate Navigation System manual.

## Bluetooth®

Vehicles with a Bluetooth system can use a Bluetooth capable cell phone with a Hands Free Profile to make and receive phone calls. The system can be used while the key is in ON/RUN or ACC/ACCESSORY position. The range of the Bluetooth system can be up to 30 ft. (9.1 m). Not all phones support all functions, and not all phones are guaranteed to work with the in-vehicle Bluetooth system. See gm.com/bluetooth for more information on compatible phones.

## Voice Recognition

The Bluetooth system uses voice recognition to interpret voice commands to dial phone numbers and name tags.

**Noise:** Keep interior noise levels to a minimum. The system may not recognize voice commands if there is too much background noise.

**When to Speak:** A short tone sounds after the system responds indicating when it is waiting for a voice command. Wait until the tone and then speak.

**How to Speak:** Speak clearly in a calm and natural voice.

## Audio System

When using the in-vehicle Bluetooth system, sound comes through the vehicle's front audio system speakers and overrides the audio system. Use the audio system volume knob, during a call, to change the volume level. The adjusted volume level remains in memory for later calls. To prevent missed calls, a minimum volume level is used if the volume is turned down too low.

## Bluetooth Controls

Use the button located on the steering wheel to operate the in-vehicle Bluetooth system. See *Audio Steering Wheel Controls on page 3-109* for more information.

**(Push To Talk):** Press to answer incoming calls, to confirm system information, and to start speech recognition.

## Pairing

A Bluetooth enabled cell phone must be paired to the in-vehicle Bluetooth system first and then connected to the vehicle before it can be used. See the cell phone manufacturers user guide for Bluetooth functions before pairing the cell phone. If a Bluetooth phone is not connected, calls will be made using OnStar® Hands-Free Calling, if available. Refer to the OnStar owner's guide for more information.

Pairing Information:

- Up to five cell phones can be paired to the in-vehicle Bluetooth system.
- The pairing process is disabled when the vehicle is moving.
- The in-vehicle Bluetooth system automatically links with the first available paired cell phone in the order the phone was paired.
- Only one paired cell phone can be connected to the in-vehicle Bluetooth system at a time.
- Pairing should only need to be completed once, unless changes to the pairing information have been made or the phone is deleted.

To link to a different paired phone, see Linking to a Different Phone later in this section.

## Pairing a Phone

1. Press and hold for two seconds. The system responds with “Ready” followed by a tone.
2. Say “Bluetooth”. The system responds with “Bluetooth ready” followed by a tone.
3. Say “Pair”. The system responds with instructions and a four digit PIN number. The PIN number will be used in Step 4.
4. Start the Pairing process on the cell phone that will be paired to the vehicle. Reference the cell phone manufacturers user guide for information on this process.

   Locate the device named “General Motors” in the list on the cellular phone and follow the instructions on the cell phone to enter the four digit PIN number that was provided in Step 3.
5. The system prompts for a name for the phone. Use a name that best describes the phone. This name will be used to indicate which phone is connected. The system then confirms the name provided.
6. The system responds with “<Phone name> has been successfully paired” after the pairing process is complete.
7. Repeat Steps 1 through 7 for additional phones to be paired.

## Listing All Paired and Connected Phones

1. Press and hold for two seconds. The system responds with “Ready” followed by a tone.
2. Say “Bluetooth”. The system responds with “Bluetooth ready” followed by a tone.
3. Say “List”. The system lists all the paired Bluetooth devices. If a phone is connected to the vehicle, the system will say “Is connected” after the connected phone.

## Deleting a Paired Phone

1. Press and hold for two seconds. The system responds with “Ready” followed by a tone.
2. Say “Bluetooth”. The system responds with “Bluetooth ready” followed by a tone.
3. Say “Delete”. The system asks which phone to delete followed by a tone.
4. Say the name of the phone to be deleted. If the phone name is unknown, use the “List” command for a list of all paired phones. The system responds with “Would you like to delete <phone name>? Yes or No” followed by a tone
5. Say “Yes” to delete the phone. The system responds with “OK, deleting <phone name>”.

## Linking to a Different Phone

1. Press and hold for two seconds. The system responds with “Ready” followed by a tone.
2. Say “Bluetooth”. The system responds with “Bluetooth ready” followed by a tone.
3. Say “Change phone”. The system responds with “Please wait while I search for other phones”.
   - If another phone is found, the response will be “<Phone name> is now connected”.
   - If another phone is not found, the original phone remains connected.

# Storing Name Tags

The system can store up to thirty phone numbers as name tags that are shared between the Bluetooth and OnStar systems.

The system uses the following commands to store and retrieve phone numbers:

- Store
- Digit Store
- Directory

## Using the Store Command

The store command allows a phone number to be stored without entering the digits individually.

1. Press and hold for two seconds. The system responds with “Ready” followed by a tone.
2. Say “Store”. The system responds with “Store, number please” followed by a tone.
3. Say the complete phone number to be stored at once with no pauses.
   - If the system recognizes the number it responds with “OK, Storing” and repeats the phone number.
   - If the system is unsure it recognizes the phone number, it responds with “Store” and repeats the number followed by “Please say yes or no”. If the number is correct, say “Yes”. If the number is not correct, say “No”. The system will ask for the number to be re-entered.
4. After the system stores the phone number, it responds with “Please say the name tag” followed by a tone.

5. Say a name tag for the phone number. The name tag is recorded and the system responds with “About to store <name tag>. Does that sound OK?”.
   - If the name tag does not sound correct, say “No” and repeat Step 5.
   - If the name tag sounds correct, say “Yes” and the name tag is stored. After the number is stored the system returns to the main menu.

## Using the Digit Store Command

The digit store command allows a phone number to be stored by entering the digits individually.

1. Press and hold for two seconds. The system responds with “Ready” followed by a tone.
2. Say “Digit Store”. The system responds with “Please say the first digit to store” followed by a tone.
3. Say the first digit to be stored. The system will repeat back the digit it heard followed by a tone. Continue entering digits until the number to be stored is complete.
   - If an unwanted number is recognized by the system, say “Clear” at any time to clear the last number.
   - To hear all of the numbers recognized by the system, say “Verify” at any time and the system will repeat them.
4. After the complete number has been entered, say “Store”. The system responds with “Please say the name tag” followed by a tone.
5. Say a name tag for the phone number. The name tag is recorded and the system responds with “About to store <name tag>. Does that sound OK?”.
   - If the name tag does not sound correct, say “No” and repeat Step 5.
   - If the name tag sounds correct, say “Yes” and the name tag is stored. After the number is stored the system returns to the main menu.

## Using the Directory Command

The directory command lists all of the name tags stored by the system. To use the directory command:

1. Press and hold for two seconds. The system responds with “Ready” followed by a tone.
2. Say “Directory”. The system responds with “Directory” and then plays back all of the stored name tags. When the list is complete, the system returns to the main menu.

## Deleting Name Tags

The system uses the following commands to delete name tags:

- Delete
- Delete all name tags

### Using the Delete Command

The delete command allows specific name tags to be deleted.

To use the delete command:

1. Press and hold for two seconds. The system responds with “Ready” followed by a tone.
2. Say “Delete”. The system responds with “Delete, please say the name tag” followed by a tone.
3. Say the name tag to be deleted. The system responds with “Would you like to delete, <name tag>? Please say yes or no”.
   - If the name tag is correct, say “Yes” to delete the name tag. The system responds with “OK, deleting <name tag>, returning to the main menu.”
   - If the name tag is incorrect, say “No”. The system responds with “No. OK, let’s try again, please say the name tag.”

### Using the Delete All Name Tags Command

The delete all name tags command deletes all stored phone book name tags and route name tags for OnStar (if present).

To use the delete all name tags command:

1. Press and hold for two seconds. The system responds with “Ready” followed by a tone.
2. Say “Delete all name tags”. The system responds with “You are about to delete all name tags stored in your phone directory and your route destination directory. Are you sure you want to do this? Please say yes or no.”
   - Say “Yes” to delete all name tags.
   - Say “No” to cancel the function and return to the main menu.

## Making a Call

Calls can be made using the following commands:

- Dial
- Digit Dial
- Call
- Re-dial

## Using the Dial Command

1. Press and hold for two seconds. The system responds with “Ready” followed by a tone.
2. Say “Dial”. The system responds with “Dial using <phone name>. “Number please” followed by a tone.
3. Say the entire number without pausing.
   - If the system recognizes the number, it responds with “OK, Dialing” and dials the number.
   - If the system does not recognize the number, it confirms the numbers followed by a tone. If the number is correct, say “Yes”. The system responds with “OK, Dialing” and dials the number. If the number is not correct, say “No”. The system will ask for the number to be re-entered.

## Using the Digit Dial Command

1. Press and hold for two seconds. The system responds with “Ready” followed by a tone.
2. Say “Digit Dial”. The system responds with “Digit dial using <phone name>, please say the first digit to dial” followed by a tone.
3. Say the digit to be dialed one at a time. Following each digit, the system will repeat back the digit it heard followed by a tone.
4. Continue entering digits until the number to be dialed is complete. After the whole number has been entered, say “Dial”. The system responds with “OK, Dialing” and dials the number.
   - If an unwanted number is recognized by the system, say “Clear” at any time to clear the last number.
   - To hear all of the numbers recognized by the system, say “Verify” at any time and the system will repeat them.

## Using the Call Command

1. Press and hold for two seconds. The system responds with “Ready” followed by a tone.
2. Say “Call”. The system responds with “Call using <phone name>. Please say the name tag” followed by a tone.
3. Say the name tag of the person to call.
    - If the system clearly recognizes the name tag it responds with “OK, calling, <name tag>” and dials the number.
    - If the system is unsure it recognizes the right name tag, it confirms the name tag followed by a tone. If the name tag is correct, say “Yes”. The system responds with “OK, calling, <name tag>” and dials the number. If the name tag is not correct, say “No”. The system will ask for the name tag to be re-entered.

Once connected, the person called will be heard through the audio speakers.

## Using the Re-dial Command

1. Press and hold for two seconds. The system responds with “Ready” followed by a tone.
2. After the tone, say “Re-dial”. The system responds with “Re-dial using <phone name>” and dials the last number called from the connected Bluetooth phone.

Once connected, the person called will be heard through the audio speakers.

# Receiving a Call

When an incoming call is received, the audio system mutes and a ring tone is heard in the vehicle.

Press and begin speaking to answer the call.

# Call Waiting

Call waiting must be supported on the Bluetooth phone and enabled by the wireless service carrier to work.

- Press to answer an incoming call when another call is active. The original call is placed on hold.
- Press again to return to the original call.
- To ignore the incoming call, continue with the original call with no action.

## Three-Way Calling

Three-Way Calling must be supported on the Bluetooth phone and enabled by the wireless service carrier to work.

1. While on a call press the voice button. The system responds with “Ready” followed by a tone.
2. Say “Three-way call”. The system responds with “Three-way call, please say dial or call”.
3. Use the dial or call command to dial the number of the third party to be called.
4. Once the call is connected, press the voice button to link all the callers together.

## Ending a Call

To end a call:

1. Press the voice button. The system responds with “Ready” followed by a tone.
2. Say “End Call”. The call is then ended.

## Muting a Call

During a call, all sounds from inside the vehicle can be muted so that the person on the other end of the call cannot hear them.

### To Mute a call

1. Press the voice button. The system responds with “Ready” followed by a tone.
2. Say “Mute Call”. The system responds with “Call muted”.

### To Cancel Mute

1. Press the voice button. The system responds with “Ready” followed by a tone.
2. After the tone, say “Mute Call”. The system responds with “Resuming call”.

## Transferring a Call

Audio can be transferred between the in-vehicle Bluetooth system and the cell phone.

### To Transfer Audio to the Cell Phone

During a call with the audio in the vehicle:

1. Press the voice button. The system responds with “Ready” followed by a tone.
2. Say “Transfer Call.” The system responds with “Transferring call” and the audio will switch from the vehicle to the cell phone.

### To Transfer Audio to the In-Vehicle Bluetooth System

The cellular phone must be paired and connected with the Bluetooth system before a call can be transferred. The connection process can take up to two minutes after the key is turned to the ON/RUN or ACC/ACCESSORY position.

During a call with the audio on the cell phone, press for more than two seconds. The audio switches from the cell phone to the vehicle.

## Voice Pass-Thru

Voice Pass-Thru allows access to the voice recognition commands on the cell phone. See the cell phone manufacturers user guide to see if the cell phone supports this feature. This feature can be used to verbally access contacts stored in the cell phone.

1. Press and hold for two seconds. The system responds with “Ready” followed by a tone.
2. Say “Bluetooth”. The system responds with “Bluetooth ready” followed by a tone.
3. Say “Voice”. The system responds with “OK, accessing <phone name>”.
   - The cell phone’s normal prompt messages will go through its cycle according to the phone’s operating instructions.

## Dual Tone Multi-Frequency (DTMF) Tones

The in-vehicle Bluetooth system can send numbers and numbers stored as name tags during a call. This is used when calling a menu driven phone system. Account numbers can be programmed into the phonebook for retrieval during menu driven calls.

### Sending a Number During a Call

1. Press . The system responds with “Ready” followed by a tone.
2. Say “Dial”. The system responds with “Say a number to send tones” followed by a tone.
3. Say the number to send.
   - If the system clearly recognizes the number it responds with “OK, Sending Number” and the dial tones are sent and the call continues.
   - If the system is not sure it recognized the number properly, it responds “Dial Number, Please say yes or no?” followed by a tone. If the number is correct, say “Yes”. The system responds with “OK, Sending Number” and the dial tones are sent and the call continues.

### Sending a Stored Name Tag During a Call

1. Press . The system responds with “Ready” followed by a tone.
2. Say “Send name tag.” The system responds with “Say a name tag to send tones” followed by a tone.
3. Say the name tag to send.
   - If the system clearly recognizes the name tag it responds with “OK, Sending <name tag>” and the dial tones are sent and the call continues.
   - If the system is not sure it recognized the name tag properly, it responds “Dial <name tag>, Please say yes or no?” followed by a tone. If the name tag is correct, say “Yes”. The system responds with “OK, Sending <name tag>” and the dial tones are sent and the call continues.

## Clearing the System

Unless information is deleted out of the in-vehicle Bluetooth system, it will be retained indefinitely. This includes all saved name tags in the phonebook and phone pairing information. For information on how to delete this information, see the above sections on Deleting a Paired Phone and Deleting Name Tags.

## Other Information

The Bluetooth® word mark and logos are owned by the Bluetooth® SIG, Inc. and any use of such marks by General Motors is under license. Other trademarks and trade names are those of their respective owners.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

This device complies with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference received, including interference that may cause undesired operation of the device.

Changes or modifications to this system by other than an authorized service facility could void authorization to use this equipment.

## Rear Seat Entertainment (RSE) System

The vehicle may have a DVD Rear Seat Entertainment (RSE) system. The RSE system includes a DVD player, a video display screen, two sets of wireless headphones, and a remote control.

### Before You Drive

The RSE system is for rear seat passengers only and is not intended for the driver while driving.

### Parental Control

This button is located behind the video screen. Press this button while a DVD or CD is playing to freeze the video and mute the audio. The video screen displays Parental Control ON and the power indicator light on the DVD player flashes. It also disables all other button operations from the remote control and the DVD player, with the exception of the eject button. Press this button again to restore operation of the DVD player.

This button can also be used to turn the DVD player power on and automatically resume play if the ignition is in RUN, ACCESSORY, or if Retained Accessory Power (RAP) is active.

### Headphones

The RSE system includes two sets of wireless headphones.

Each set of headphones has an ON/OFF control. An indicator light illuminates on the headphones when they are on. If the light does not illuminate, the batteries may need to be replaced. See "Battery Replacement" following for more information.

Each set of headphones has a volume knob. To adjust the volume, adjust this knob.

The transmitters are located below the video display screen. The headphones shut off automatically if they lose the signal from the system after about four minutes to save battery power. The signal can be lost if the system is turned off or if the headphones are out of range of the transmitters.

When using the wired headphones, if the front seat passengers play a CD in the Radio with Six-Disc CD or use XM Satellite Radio Service, audio is heard from these sources, instead of the DVD or CD that is currently playing through the RSE.

***Notice:*** **Do not store the headphones in heat or direct sunlight. This could damage the headphones and repairs will not be covered by the warranty. Storage in extreme cold can weaken the batteries. Keep the headphones stored in a cool, dry place.**

Both sets of rear seat headphones may include foam ear pads.

The foam ear pads can become worn or damaged if they are not handled or stored properly. They can be replaced separately from the headphone set.

The headphone replacement foam ear pads can be ordered in pairs. See your dealer/retailer for more information.

## Battery Replacement

To change the batteries on the headphones:

1. Loosen the screw to the battery door on the left side of the headphones and slide open.
2. Replace the two batteries in the compartment. Install correctly using the diagram on the inside of the battery compartment.
3. Replace the battery door and tighten the door screw.

If the headphones are to be stored for a long period of time, remove the batteries and keep them in a cool, dry place.

# Stereo RCA Jacks

The RCA jacks are located behind the video screen. The RCA jacks allow audio and video signals to be connected from an auxiliary device such as a camcorder or a video game unit to the RSE system. Standard RCA cables, not included, are needed to connect the auxiliary device to the RCA jacks. The yellow connector inputs video and the red and white connectors input right and left audio. Refer to the manufacturer’s instructions for proper connection of the auxiliary device.

To use the auxiliary inputs on the RSE system, connect an external auxiliary device to the color-coded RCA jacks and turn both the auxiliary device and the RSE system power on. If the RSE system had been previously in the DVD player mode, pressing the SRCE button on the faceplate or the remote control switches the RSE system between the auxiliary device and the DVD player.

### How to Change the Video Format when in the Auxiliary Mode

The auxiliary input video format is preset to NTSC. In some countries, the video format may be in the PAL system. To change the video format:

1. Press the ▭ display menu button.
2. Press the down ⮟ navigation arrow to highlight the Video Format option.
3. Press the ◄┘ button to select Video Format.
4. Press the left ⮜ or right ⮞ navigation arrows to select the desired video format.
5. Press the ◄┘ button to accept the change.

## Audio Output

Audio from the DVD player or auxiliary inputs can be heard through the following possible sources:

- Wireless Headphones
- Vehicle Speakers
- Vehicle wired headphone jacks on the Rear Seat Audio system (if equipped)

The RSE system always transmits the audio signal to the wireless headphones, if there is audio available. See "Headphones" earlier in this section for more information.

The RSE system is capable of outputting audio to the vehicle speakers by using the radio. The RSE system can be selected as an audio source on the radio if the RSE system power is on. Once the RSE system is selected as an audio source on the radio, adjust the speaker volume on the radio, if necessary. If the RSE system power is not on, the RSE system is not an available source on the radio. See the vehicle's radio information.

The RSE system is capable of outputting audio to the wired headphone jacks on the rear seat audio system (if equipped). The RSE system can be selected as an audio source on the rear seat audio system if the RSE system power is on. See *Rear Seat Audio (RSA) on page 3-108* for more information.

## Video Screen

The video screen is located in the overhead console.

To use the video screen:

1. Push forward on the release button located on the DVD display console.
2. Pull the screen down, away from you, and adjust its position as desired.

When the video screen is not in use, push it up into its locked position.

If a DVD is playing and the screen is raised to its locked position, the screen shuts off, but the DVD continues to play through the previous audio or video source.

The video screen contains the IR transmitters for the wireless headphones and the IR receivers for the remote control. If the screen is in the closed position, the signals are not available for the operation of the headphones or the remote control.

***Notice:*** **Avoid directly touching the video screen, as damage may occur. See “Cleaning the Video Screen” later in this section for more information.**

## DVD Player

The DVD player is located in the overhead console and is controlled by the buttons on the DVD player or on the remote control. See “Remote Control” later in this section for more information.

The DVD player power can be turned on while the ignition is in ON/RUN, ACC/ACCESSORY, or when Retained Accessory Power (RAP) is active.

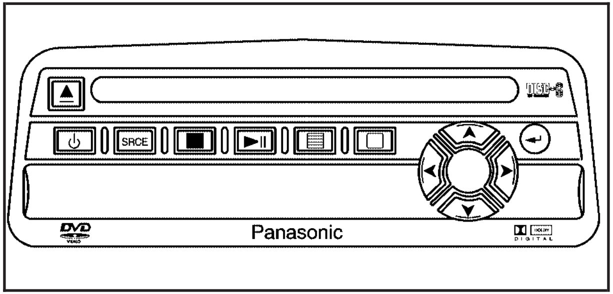
The RSE system DVD player is only compatible with DVDs of the appropriate region code in the country that the vehicle was sold. The DVD region code is printed on the jacket of most DVDs.

Standard audio CDs, CD-R, CD-RW, Video CD and Photo CD/CD-R media are fully supported by this DVD player. DVD-R and DVD-RW media is supported if formatted as DVD-Video. DVD+R and DVD+RW media may or may not be supported by the DVD player. The DVD player does not support DVD-RAM, DVD-ROM, and DVD Audio media. An error message displays if this type of media is inserted into the DVD player.

When using the wired headphones, not included, if the front seat passengers play a CD in the Radio with Six-Disc CD (if equipped) or use XM™ Satellite Radio Service (if equipped), the audio for these sources will be heard, instead of the DVD or CD that is currently playing through the RSE.

If an error message displays on the video screen, see “DVD Messages” later in this section.

## DVD Player Buttons (Without Sunroof)




(Power): Press to turn the RSE system on and off. The power indicator light illuminates when the power is on.

**(Eject):** Press to eject a DVD or CD.

**SRCE (Source):** Press to switch between the DVD player and an auxiliary source.

**(Stop):** Press to stop playing, rewinding, or fast forwarding a DVD or CD. Press twice to return to the beginning of the DVD.

**(Play/Pause):** Press to start play of a DVD or CD. Press while a DVD or CD is playing to pause it. Press again to continue the play of the DVD or CD.

**(Main DVD Menu):** Press to access the DVD menu. The DVD menu is different on every DVD. Use the navigation arrows to move the cursor around the DVD menu. After making a selection press the enter button. This button only operates when playing a DVD.

**(Set-up Menu):** Press to adjust the color, tint, brightness, contrast, display mode, and dynamic range compression. The dynamic range compression feature can be used to reduce loud audio and increase low audio produced by some DVDs.

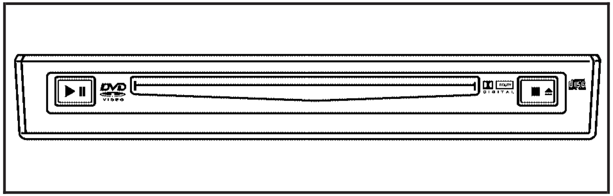
To change a feature back to the factory default setting, press this button to display the feature, then press and hold until the default setting displays.

While playing an Audio or DVD disc, press and hold to display and to remove the track and time information.

**, , , (Menu Navigation Arrows):** Use the arrows to navigate through a menu.

**(Enter):** Press to select the choices that are highlighted in any menu.

## DVD Player Buttons (With Sunroof)



►‖ **(Play/Pause):** Press to start play of a DVD or CD. Press while a DVD or CD is playing to pause it. Press again to continue the play of the DVD or CD.

■ / ⏏ **(Stop/Eject):** Press to stop playing, rewinding, or fast forwarding a DVD or CD. Press this button twice to return to the beginning of the DVD.

Press and hold this button for more than three seconds to eject a DVD or CD.

## Playing a Disc

To play a disc, gently insert the disc with the label side up into the loading slot. The DVD player continues loading the disc and the player automatically starts, if the vehicle is in ON/RUN, ACC/ACCESSORY, or when RAP is active.

If a disc is already in the player, press the play/pause button on the DVD player faceplate or on the remote control.

Some DVDs do not allow fast forwarding or skipping of the copyright information or the previews. Some DVDs begin playing after the previews have finished. If the DVD does not begin to play the main title, refer to the on-screen instructions.

## Stopping and Resuming Playback

To stop playing a disc, press and release the stop button on the DVD player faceplate or the remote control.

To resume playback, press the play/pause button on the DVD player faceplate or the remote control. The movie should resume play from where it was last stopped, if the disc has not been ejected and the stop button has not been pressed twice. If the disc has been ejected or if the stop button has been pressed twice, the disc resumes play at the beginning.

## Ejecting a Disc (DVD Player without Sunroof)

Press the ■ / ⏏ button on the DVD player faceplate to eject the disc. There is not an eject button on the remote control.

If a disc is ejected from the player, but is not removed, the DVD player reloads the disc after a short period of time. The disc is stored in the DVD player. The DVD player does not resume play of the disc automatically.

## Ejecting a Disc (DVD Player with Sunroof)

Press and hold the ■ / ⏏ button for more than two seconds on the DVD player faceplate to eject the disc. There is not an eject button on the remote control.

If a disc is ejected from the player, but is not removed, the DVD player reloads the disc after a short period of time. The disc is stored in the DVD player. The DVD player does not resume play of the disc automatically.

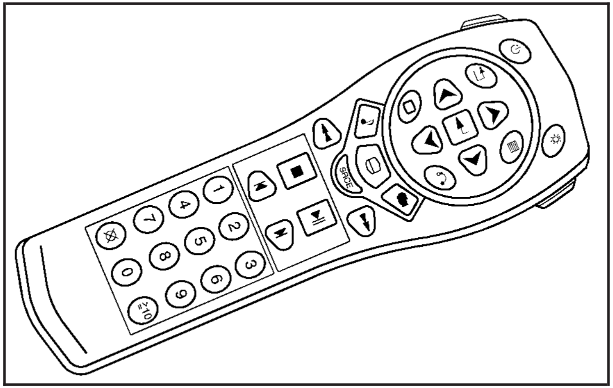
# Remote Control

To use the remote control, aim it at the transmitter window below the video screen and press the desired button. Direct sunlight or very bright light can affect the ability of the RSE system to receive signals from the remote control. If the remote control does not seem to be working, the batteries may need to be replaced. See “Battery Replacement” later in this section.

Objects blocking the line of sight can also affect the function of the remote control.

***Notice:*** **Storing the remote control in a hot area or in direct sunlight can damage it, and the repairs will not be covered by the warranty. Storage in extreme cold can weaken the batteries. Keep the remote control stored in a cool, dry place.**

## Remote Control Buttons




**(Power):** Press to turn the DVD player on and off.

**(Title):** Press to return the DVD to the main menu of the DVD.

**▲, ▼, ◄, ► (Menu Navigation Arrows):** Use the arrows to navigate through a menu.

**(Set-up Menu):** Press to adjust the color, tint, brightness, contrast, display mode, and dynamic range compression. The dynamic range compression feature can be used to reduce loud audio and increase low audio produced by some DVDs.

**♪ (Audio):** Press to display a menu that only appears while a DVD is being played. The format and content of this function will vary for each disc.

**(Fast Reverse):** Press to fast reverse the DVD or CD. To stop fast reversing, press again. This button might not work when the DVD is playing the copyright information or the previews.

**SRCE (Source):** Press to switch between the DVD player and an auxiliary source.

**(Stop):** Press to stop playing, rewinding, or fast forwarding a DVD or CD. Press twice to return to the beginning of the DVD.

**(Previous Track/Chapter):** Press to return to the start of the current track or chapter. Press again to return to the previous track or chapter. This button might not work while the DVD is playing the copyright information or the previews.

**1 through 0 (Numeric Keypad):** The numeric keypad provides the capability of direct chapter, title, and track number selection.

**≧ 10 (Double Digit Entries):** Press to select chapter, title, and track numbers greater than 9. Press before inputting the number.

**(Clear):** Press within three seconds to clear a number that has been entered.

**(Illumination):** Press to turn the remote control backlight on. The backlight times out after about 7 to 10 seconds if no other button is pressed while the backlight is on.

**(Main DVD Menu):** Press to access the DVD menu. The DVD menu is different on every DVD. Use the navigation arrows to move the cursor around the DVD menu. After making a selection press the enter button. This button only operates when playing a DVD.

**(Enter):** Press to select the choices that are highlighted in any menu.

**(Return):** Press to exit the current active menu and return to the previous menu. This button operates only when a DVD is playing and a menu is active.

**(Camera Angle):** Press to change camera angles on DVDs that have this feature when a DVD is playing. The format and content of this function will vary for each disc.

**(Subtitle):** Press to turn on subtitles and to move through subtitle options when a DVD is playing. The format and content of this function will vary for each disc.

**(Fast Forward):** Press to fast forward the DVD or CD. To stop fast forwarding, press again. This button might not work while the DVD is playing the copyright information or the previews.

**(Play/Pause):** Press to start play of a DVD or CD. Press while a DVD or CD is playing to pause it. Press again to continue the play of the DVD or CD.

When the DVD is playing, press this button then press the fast forward button. The DVD continues playing in a slow play mode. To cancel slow play mode, press this button.

**(Next Track/Chapter):** Press to advance to the beginning of the next track or chapter. This button might not work when the DVD is playing the copyright information or the previews.

## Battery Replacement

To change the remote control batteries:

1. Remove the battery compartment door located on the bottom of the remote control.
2. Replace the two batteries in the compartment. Make sure that they are installed correctly, using the diagram on the inside of the battery compartment.
3. Close the battery door securely.

If the remote control is to be stored for a long period of time, remove the batteries and keep them in a cool, dry place.

| Problem | Recommended Action |
|---|---|
| No power. | The ignition might not be in ON/RUN or ACC/ACCESSORY. The parental control button might have been turned on. The power indicator light flashes. |
| Disc will not play. | The system might be off. The parental control button might have been turned on. The power indicator light flashes. The system might be in auxiliary mode. The disc is upside down or is not compatible. |
| The picture does not fill the screen. There are black borders on the top and bottom or on both sides or it looks stretched out. | Check the display mode settings in the display menu. |
| The disc was ejected, but it was pulled back into the DVD player. | The disc is being stored in the DVD player. Press the eject button again to eject the disc. |

| Problem | Recommended Action |
|---|---|
| In auxiliary mode, the picture moves or scrolls. | Check the auxiliary input connections at both devices. Change the Video Format to PAL or NTSC. See "Stereo RCA Jacks" previously for how to change the video format. |
| The language in the audio or on the screen is wrong. | Check the audio or language selection in the main DVD menu. |
| The remote control does not work. | Check to make sure there is no obstruction between the remote control and the transmitter window. Check the batteries to make sure they are not dead or installed incorrectly. The parental control button might have been turned on. The power indicator light flashes. |
| After stopping the player, I push Play but sometimes the DVD starts where I left off and sometimes at the beginning. | If the stop button was pressed one time, the DVD player resumes playing where the DVD was stopped. If the stop button was pressed two times the DVD player begins to play from the beginning of the DVD. |
| The auxiliary source is running but there is no picture or sound. | Check that the DVD player is in the auxiliary source mode. Check the auxiliary input connections at both devices. |
| My disc is stuck in the player. The Load/Eject button does not work. | Turn the DVD power off, then on, then press the load/eject button on the DVD player. Do not attempt to forcibly remove the disc from the DVD player. This could permanently damage the disc and DVD player. |

| Problem | Recommended Action |
|---|---|
| Sometimes the wireless headphone audio cuts out or buzzes. | Check for obstructions, low batteries, reception range, and interference from cellular telephone towers or by using a cellular telephone in the vehicle.<br>Check that the headphones are facing the front of the vehicle. |
| I lost the remote and/or the headphones. | See your dealer/retailer for assistance. |
| The DVD is playing, but there is no picture or sound. | Check that the DVD player is in DVD mode. |
| The audio/video skips or jumps. | The DVD or CD could be dirty, scratched, or damaged. |
| The audio from the radio for the Radio with Six-Disc CD and XM™ has taken over the audio from the DVD or CD when using the wired headphones. | The RSE is working correctly.<br>Use the wireless headphones or have the front seat passengers listen to another audio source. |

## DVD Messages

The following errors can display on the video screen:

**Disc Format Error:** This message displays if a disc is inserted upside down, if the disc is not readable, or if the format is not compatible with the DVD player.

**Load/Eject Error:** This message displays if the disc is not properly loaded or ejected.

**Disc Play Error:** This message displays if the DVD player cannot play the disc. Scratched or damaged discs cause this error.

**Region Code Error:** This message displays if the region code of the DVD is not compatible with the region code of the DVD player.

**No Disc:** This message displays if any of the buttons on the DVD faceplate or remote control are pressed and no disc is present in the DVD player.

## DVD Distortion

There can be an experience with audio distortion in the wireless headphones when operating cellular phones, scanners, CB radios, Global Positioning Systems (GPS)*, two-way radios, mobile fax, or walkie talkies.

It might be necessary to turn off the DVD player when operating one of these devices in or near the vehicle.

* Excludes the OnStar® System.

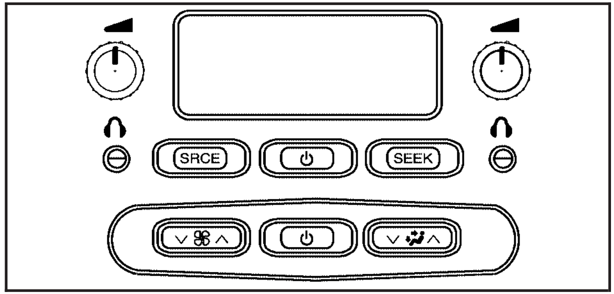
## Cleaning the Video Screen

Use isopropyl or rubbing alcohol on a clean cloth and gently wipe the video screen. Do not spray directly onto the screen and do not press too hard or too long on the video screen.

# Rear Seat Audio (RSA)

This feature allows rear seat passengers to listen to any of the sources: radio, CDs, or DVDs. However, the rear seat passengers can only control the sources that are not being listened by the front seat passengers. For example, rear seat passengers can listen to and control CDs or DVDs through the headphones while the driver listens to the radio through the front speakers. The rear seat passengers have control of the volume for each set of headphones.

The front seat audio controls always have priority over the RSA controls. If the front seat passengers switch the source for the main radio to a remote source, the RSA is not able to control the source. The rear seat audio can be operated while the main radio is off.




**(Power):** Press to turn the system on or off. The rear speakers are muted when the power is turned on.

**(Volume):** Turn to increase or to decrease the volume. The left volume knob controls the left wired headphones and the right volume knob controls the right wired headphones.

**SRCE (Source):** Press to select a source: radio, CD, or DVD. The inactive CD or DVD remains inside the radio for future listening.

**SEEK:** Press to advance to the next station or track and stay there. The display shows the selection. This function is inactive if the front seat passengers are listening to the same audio source.

To scan preset stations, press and hold the SEEK button for two seconds and the radio advances to the next preset station. If the button continues to be held down, the radio advances through the available preset stations. The display shows the selections. This function is inactive if the front seat passengers are listing to the radio.

While a CD is playing, press the SEEK button to go to the next track on the CD. This function is inactive if the front seat passengers are listening to a CD.

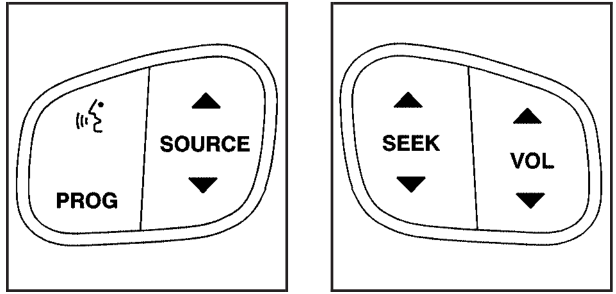
While a CD is playing in the six-disc CD player, press and hold the SEEK button for two seconds to go to the next CD, if multiple CDs are loaded. This function is inactive if the front seat passengers are listening to a CD.

## Theft-Deterrent Feature

THEFTLOCK® is designed to discourage theft of the vehicle's radio by learning a portion of the Vehicle Identification Number (VIN). The radio does not operate and LOCKED displays if the radio is stolen or moved to a different vehicle.

When the when the ignition is in the off position, a blinking red light on the upper left side of the radio indicates that THEFTLOCK® is armed.

## Audio Steering Wheel Controls




Vehicles with audio steering wheel controls could differ depending on the vehicle's options. Some audio controls can be adjusted at the steering wheel.

**(Mute/ Voice Recognition):** For vehicles with OnStar® or Bluetooth® systems press to interact with those systems. See *OnStar® System on page 2-45* and *Bluetooth® on page 3-85* in this manual for more information.

If the vehicle does not have OnStar, press to silence the vehicle speakers only. Press again, or any other radio button, to turn on the sound.

**PROG (Program):** Press to play a station that has been programmed on the radio preset pushbuttons. The radio seeks preset stations only with a strong signal that are in the selected band.

When a CD is playing in the CD changer, press this button to go to the next available CD, if multiple CDs are loaded.

**▲ SOURCE ▼:** Press the SOURCE arrows to switch between FM1, FM2, AM, or XM1 or XM2, or a CD. If a CD is loaded the CD symbol displays.

**▲ SEEK ▼:** Press the SEEK arrows to go to the previous or the next radio station and stay there. The radio seeks stations only with a strong signal that are in the selected band.

When a CD is playing, press the SEEK arrows to fast forward or reverse.

**▲ VOL ▼ (Volume):** Press the VOL arrows to increase or to decrease the volume.

# Radio Reception

Frequency interference and static can occur during normal radio reception if items such as cell phone chargers, vehicle convenience accessories, and external electronic devices are plugged into the accessory power outlet. If there is interference or static, unplug the item from the accessory power outlet.

## AM

The range for most AM stations is greater than for FM, especially at night. The longer range can cause station frequencies to interfere with each other. For better radio reception, most AM radio stations boost the power levels during the day, and then reduce these levels during the night. Static can also occur when things like storms and power lines interfere with radio reception. When this happens, try reducing the treble on the radio.

## FM Stereo

FM signals only reach about 10 to 40 miles (16 to 65 km). Although the radio has a built-in electronic circuit that automatically works to reduce interference, some static can occur, especially around tall buildings or hills, causing the sound to fade in and out.

## XM™ Satellite Radio Service

XM Satellite Radio Service gives digital radio reception from coast-to-coast in the 48 contiguous United States, and in Canada. Just as with FM, tall buildings or hills can interfere with satellite radio signals, causing the sound to fade in and out. In addition, traveling or standing under heavy foliage, bridges, garages, or tunnels may cause loss of the XM signal for a period of time.

## Cellular Phone Usage

Cellular phone usage may cause interference with the vehicle's radio. This interference may occur when making or receiving phone calls, charging the phone's battery, or simply having the phone on. This interference causes an increased level of static while listening to the radio. If static is received while listening to the radio, unplug the cellular phone and turn it off.

# Fixed Mast Antenna

The fixed mast antenna can withstand most car washes without being damaged. If the mast becomes slightly bent, straighten it out by hand. If the mast is badly bent, replace it.

Occasionally check to make sure the antenna is tightened to its base. If tightening is required, tighten by hand until fully seated plus one quarter turn.

# XM™ Satellite Radio Antenna System

The XM Satellite Radio antenna is located on the roof of the vehicle. Keep the antenna clear of obstructions for clear radio reception.

If the vehicle has a sunroof, the performance of the XM system may be affected if the sunroof is open.

# Chime Level Adjustment

The radio is used to adjust the vehicle's chime level. To change the volume level of the chime, press and hold pushbutton 6 with the ignition on and the radio power off. The volume level will change from the normal level to loud, and LOUD CHIME will appear on the radio display. To change back to the default or normal setting, press and hold pushbutton 6 again. The volume level will change from the loud level to normal, and NORMAL CHIME will appear on the radio display. Removing the radio and not replacing it with a factory radio or chime module will disable vehicle chimes.

## ✍ NOTES

# Section 4 Driving Your Vehicle

# Your Driving, the Road, and the Vehicle

## Driving for Better Fuel Economy

Driving habits can affect fuel mileage. Here are some driving tips to get the best fuel economy possible.

- Avoid fast starts and accelerate smoothly.
- Brake gradually and avoid abrupt stops.
- Avoid idling the engine for long periods of time.
- When road and weather conditions are appropriate, use cruise control, if equipped.
- Always follow posted speed limits or drive more slowly when conditions require.
- Keep vehicle tires properly inflated.
- Combine several trips into a single trip.
- Replace the vehicle's tires with the same TPC Spec number molded into the tire's sidewall near the size.
- Follow recommended scheduled maintenance.

## Defensive Driving

Defensive driving means "always expect the unexpected." The first step in driving defensively is to wear your safety belt — See *Safety Belts: They Are for Everyone on page 1-13*.

**⚠ CAUTION:**

Assume that other road users (pedestrians, bicyclists, and other drivers) are going to be careless and make mistakes. Anticipate what they might do and be ready. In addition:

- Allow enough following distance between you and the driver in front of you.
- Focus on the task of driving.

Driver distraction can cause collisions resulting in injury or possible death. These simple defensive driving techniques could save your life.

## Drunk Driving

**⚠ CAUTION:**

Drinking and then driving is very dangerous. Your reflexes, perceptions, attentiveness, and judgment can be affected by even a small amount of alcohol. You can have a serious — or even fatal — collision if you drive after drinking. Do not drink and drive or ride with a driver who has been drinking. Ride home in a cab; or if you are with a group, designate a driver who will not drink.

Death and injury associated with drinking and driving is a global tragedy.

Alcohol affects four things that anyone needs to drive a vehicle: judgment, muscular coordination, vision, and attentiveness.

Police records show that almost 40 percent of all motor vehicle-related deaths involve alcohol. In most cases, these deaths are the result of someone who was drinking and driving. In recent years, more than 17,000 annual motor vehicle-related deaths have been associated with the use of alcohol, with about 250,000 people injured.

For persons under 21, it is against the law in every U.S. state to drink alcohol. There are good medical, psychological, and developmental reasons for these laws.

The obvious way to eliminate the leading highway safety problem is for people never to drink alcohol and then drive.

Medical research shows that alcohol in a person's system can make crash injuries worse, especially injuries to the brain, spinal cord, or heart. This means that when anyone who has been drinking — driver or passenger — is in a crash, that person's chance of being killed or permanently disabled is higher than if the person had not been drinking.

## Control of a Vehicle

The following three systems help to control the vehicle while driving — brakes, steering, and accelerator. At times, as when driving on snow or ice, it is easy to ask more of those control systems than the tires and road can provide. Meaning, you can lose control of the vehicle.

Adding non-dealer/non-retailer accessories can affect vehicle performance. See *Accessories and Modifications on page 5-3*.

# Braking

See *Brake System Warning Light on page 3-36*.

Braking action involves perception time and reaction time. Deciding to push the brake pedal is perception time. Actually doing it is reaction time.

Average reaction time is about three-fourths of a second. But that is only an average. It might be less with one driver and as long as two or three seconds or more with another. Age, physical condition, alertness, coordination, and eyesight all play a part. So do alcohol, drugs, and frustration. But even in three-fourths of a second, a vehicle moving at 60 mph (100 km/h) travels 66 feet (20 m). That could be a lot of distance in an emergency, so keeping enough space between the vehicle and others is important.

And, of course, actual stopping distances vary greatly with the surface of the road, whether it is pavement or gravel; the condition of the road, whether it is wet, dry, or icy; tire tread; the condition of the brakes; the weight of the vehicle; and the amount of brake force applied.

Avoid needless heavy braking. Some people drive in spurts — heavy acceleration followed by heavy braking — rather than keeping pace with traffic. This is a mistake. The brakes might not have time to cool between hard stops. The brakes will wear out much faster with a lot of heavy braking. Keeping pace with the traffic and allowing realistic following distances eliminates a lot of unnecessary braking. That means better braking and longer brake life.

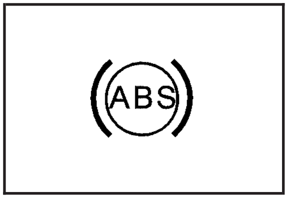
If the engine ever stops while the vehicle is being driven, brake normally but do not pump the brakes. If the brakes are pumped, the pedal could get harder to push down. If the engine stops, there will still be some power brake assist but it will be used when the brake is applied. Once the power assist is used up, it can take longer to stop and the brake pedal will be harder to push.

Adding non-dealer/non-retailer accessories can affect vehicle performance. See *Accessories and Modifications on page 5-3*.

# Antilock Brake System (ABS)

This vehicle has the Antilock Brake System (ABS), an advanced electronic braking system that will help prevent a braking skid.

When the engine is started and the vehicle begins to drive away, ABS checks itself. A momentary motor or clicking noise might be heard while this test is going on. This is normal.




If there is a problem with ABS, this warning light stays on. See *Antilock Brake System (ABS) Warning Light on page 3-37*.

Along with ABS, the vehicle has a Dynamic Rear Proportioning (DRP) system. If there is a DRP problem, both the brake and ABS warning lights come on accompanied by a 10-second chime. The lights and chime will come on each time the ignition is turned on until the problem is repaired. See your dealer/retailer for service.

Let us say the road is wet and you are driving safely. Suddenly, an animal jumps out in front of you. You slam on the brakes and continue braking. Here is what happens with ABS:

A computer senses that the wheels are slowing down. If one of the wheels is about to stop rolling, the computer will separately work the brakes at each front wheel and at both rear wheels.

ABS can change the brake pressure to each wheel, as required, faster than any driver could. This can help the driver steer around the obstacle while braking hard.

As the brakes are applied, the computer keeps receiving updates on wheel speed and controls braking pressure accordingly.

Remember: ABS does not change the time needed to get a foot up to the brake pedal or always decrease stopping distance. If you get too close to the vehicle in front of you, there will not be enough time to apply the brakes if that vehicle suddenly slows or stops. Always leave enough room up ahead to stop, even with ABS.

## Using ABS

Do not pump the brakes. Just hold the brake pedal down firmly and let antilock work. The brakes might vibrate or some noise might be heard, but this is normal.

# Braking in Emergencies

ABS allows the driver to steer and brake at the same time. In many emergencies, steering can help more than even the very best braking.

## Brake Assist

This vehicle has a Brake Assist feature designed to assist the driver in stopping or decreasing vehicle speed in emergency driving conditions. This feature uses the stability system hydraulic brake control module to supplement the power brake system under conditions where the driver has quickly and forcefully applied the brake pedal in an attempt to quickly stop or slow down the vehicle. The stability system hydraulic brake control module increases brake pressure at each corner of the vehicle until the ABS activates. Minor brake pedal pulsations or pedal movement during this time is normal and the driver should continue to apply the brake pedal as the driving situation dictates The Brake Assist feature will automatically disengage when the brake pedal is released or brake pedal pressure is quickly decreased.

# StabiliTrak® System

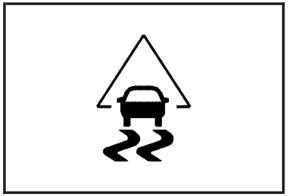
The vehicle has the StabiliTrak system which combines antilock brake, traction and stability control systems and helps the driver maintain directional control of the vehicle in most driving conditions.

Traction control activates when the controller senses wheel spin. StabiliTrak will selectively apply the brakes and reduce engine torque to help regain traction.

Stability control activates when the controller senses a discrepancy between the intended path and the direction the vehicle is travelling. StabiliTrak selectively applies braking pressure at any one of the vehicle's brakes to help guide the vehicle in the intended direction.

When you first start the vehicle and begin to drive away, the system performs several diagnostic checks to insure there are no problems. The system may be heard or felt while it is working. This is normal and does not mean there is a problem with the vehicle. If driving conditions delay system initialization, the STABILITRAK NOT READY message may be displayed on the Driver Information Center (DIC). If this is the case, the vehicle does not need servicing.

For more information on the stability messages, see *DIC Warnings and Messages on page 3-51*.



When the StabiliTrak system is both on and actively controlling the stability of the vehicle, the StabiliTrak light will blink for the duration of the event.

The system may be heard or felt while it is working. This is normal.

The StabiliTrak disable button is located on the transmission shift handle.

The StabiliTrak system is automatically disabled in 4LO mode and cannot be turned on until the vehicle is switched to 2HI, 4HI, or 4AWD.

The StabiliTrak system has three modes of operation: STABILITRAK ON, TRACTION CONTROL OFF, and STABILITRAK OFF.

STABILITRAK ON — The vehicle will default to STABILITRAK ON every time the driver starts the vehicle. The StabiliTrak light will be off and no DIC messages will be displayed.

TRACTION CONTROL OFF — The driver can modify the engine speed management system by momentarily pressing the StabiliTrak button on the transmission shift handle. The StabiliTrak light will come on and TRACTION CONTROL OFF will be displayed. For vehicles without a DIC, the StabiliTrak indicator light will come on. Momentarily pressing the StabiliTrak button again will return the system to the STABILITRAK ON mode.

STABILITRAK OFF — The driver can turn off StabiliTrak by pressing the StabiliTrak button for more than five seconds. The StabiliTrak light will come on and STABILITRAK OFF will be displayed. For vehicles without a DIC, the StabiliTrak indicator light will come on. Momentarily pressing the StabiliTrak button again will return the system to the STABILITRAK ON mode. See StabiliTrak Off below for more information.

## Traction Control Off

In this mode, stability control and brake-traction control are functional. Engine speed management will be modified and the driven wheels can spin more freely. This can cause the brake-traction control to activate more frequently. If the controller detects excessive wheel spin in this mode, the StabiliTrak indicator light may blink and the STABILITRAK ACTIVE message may be displayed to warn the driver that damage may occur to the transfer case.

## StabiliTrak Off

In this mode, both stability control and part of the traction control system are disabled. The vehicle will still have brake-traction control, but will not be able to use the engine speed management system. System noises may be heard as a result of the brake-traction control coming on. If the controller detects excessive wheel spin in this mode, the StabiliTrak indicator light may blink and the STABILITRAK ACTIVE message may be displayed to warn the driver that damage may occur to the transfer case.

It is recommended to leave the system on for normal driving conditions, but it may be necessary to turn the system off if the vehicle is stuck in sand, mud, ice or snow, and you may want to “rock” the vehicle in an attempt to free it. It may also be necessary to turn off the system when driving in extreme off-road conditions where high wheel spin is required. See *If Your Vehicle is Stuck in Sand, Mud, Ice, or Snow on page 4-32* for more information.

When the transfer case is in 4LO, the stability system is automatically disabled. The StabiliTrak light will come on and the STABILITRAK OFF message will appear on the DIC. The StabiliTrak system cannot be turned on until the vehicle is switched to 2HI, 4HI, or 4AWD.

The following chart describes the StabiliTrak system events and the corresponding messages and lights that will be displayed on the instrument panel cluster.

| Vehicles with a DIC | | Vehicles without a DIC | | Event |
|---|---|---|---|---|
| **StabiliTrak Indicator Light** | **DIC Message** | **StabiliTrak Indicator Light** | **StabiliTrak Service Light** | — |
| Off | None | Off | Off | StabiliTrak On mode (System is fully enabled, but is not actively controlling vehicle stability). |
| Solid | Traction Control Off | Solid | Off | Traction Control Off Mode |
| Solid | StabiliTrak Off | Solid | Off | StabiliTrak Off Mode (StabiliTrak indicator light will flash when system first enters this mode). |

| Vehicles with a DIC | | Vehicles without a DIC | | Event |
|---|---|---|---|---|
| Blinking | StabiliTrak Active | Blinking | Off | StabiliTrak system activates using engine speed management, brake traction control, and/or stability control. |
| Solid | Service StabiliTrak | Solid | Solid | StabiliTrak system is disabled due to a system fault. |
| Solid | StabiliTrak Not Ready | Solid | Off | StabiliTrak system is disabled due to a failure to initialize. |

***Notice:*** **If the StabiliTrak® light comes on due to heavy braking and/or because the traction control system has been continuously active, do not allow the wheel(s) of one axle to spin excessively. This could lead to damage to the transfer case and costly repairs not covered by the vehicle warranty.**

***Notice:*** **If the wheel(s) of one axle is allowed to spin excessively while the StabiliTrak, ABS and brake warning lights and any relevant DIC messages are displayed, the transfer case could be damaged. The repairs would not be covered by the vehicle warranty. Reduce engine power and do not spin the wheel(s) excessively while these lights and messages are displayed.**

StabiliTrak may activate on dry or rough roads or under conditions such as heavy acceleration while turning or abrupt upshifts/downshifts of the transmission. When this happens, a reduction in acceleration may be noticed, or a noise or vibration may be heard. This is normal.

If cruise control is being used when the system activates, the StabiliTrak light will flash and cruise control will automatically disengage. Cruise control may be reengaged when road conditions allow. See *Cruise Control on page 3-10*.

StabiliTrak will turn off automatically if a problem is detected in the system. The StabiliTrak light will come on and SERVICE STABILITRAK will be displayed on the DIC. For vehicles without a DIC, the StabiliTrak light and the StabiliTrak service light will both come on.

If the SERVICE STABILITRAK message (or StabiliTrak service light) does not clear itself after restarting the vehicle, see your dealer/retailer for service.

Adding non-GM accessories can affect the vehicle's performance. See *Accessories and Modifications on page 5-3* for more information.

## Locking Rear Axle

Vehicles with a locking rear axle can give more traction on snow, mud, ice, sand or gravel. It works like a standard axle most of the time, but when traction is low, this feature will allow the rear wheel with the most traction to move the vehicle.

## All-Wheel Drive (AWD) System

With this feature, engine power is sent to all four wheels at all times. This is like four-wheel drive, but there is no separate lever or switch to engage or disengage the front axle. It is fully automatic, and adjusts itself as needed for road conditions.

# Steering

## Power Steering

If power steering assist is lost because the engine stops or the system is not functioning, the vehicle can be steered but it will take more effort.

## Steering Tips

It is important to take curves at a reasonable speed.

Traction in a curve depends on the condition of the tires and the road surface, the angle at which the curve is banked, and vehicle speed. While in a curve, speed is the one factor that can be controlled.

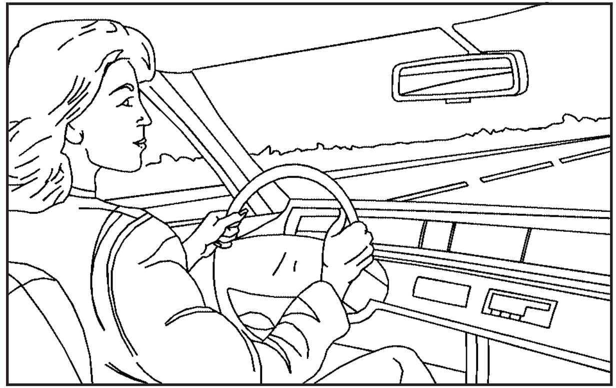
If there is a need to reduce speed, do it before entering the curve, while the front wheels are straight.

Try to adjust the speed so you can drive through the curve. Maintain a reasonable, steady speed. Wait to accelerate until out of the curve, and then accelerate gently into the straightaway.

## Steering in Emergencies

There are times when steering can be more effective than braking. For example, you come over a hill and find a truck stopped in your lane, or a car suddenly pulls out from nowhere, or a child darts out from between parked cars and stops right in front of you. These problems can be avoided by braking — if you can stop in time. But sometimes you cannot stop in time because there is no room. That is the time for evasive action — steering around the problem.

The vehicle can perform very well in emergencies like these. First apply the brakes. See *Braking on page 4-4*. It is better to remove as much speed as possible from a collision. Then steer around the problem, to the left or right depending on the space available.

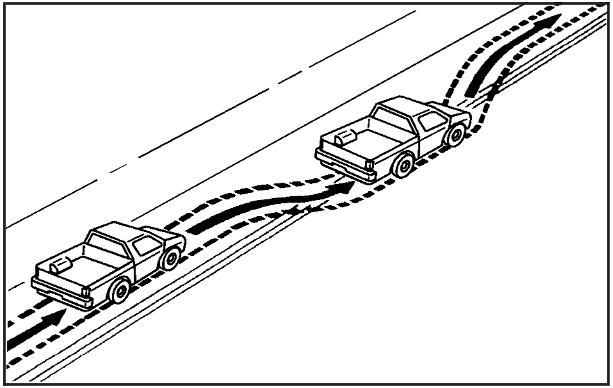


An emergency like this requires close attention and a quick decision. If holding the steering wheel at the recommended 9 and 3 o'clock positions, it can be turned a full 180 degrees very quickly without removing either hand. But you have to act fast, steer quickly, and just as quickly straighten the wheel once you have avoided the object.

The fact that such emergency situations are always possible is a good reason to practice defensive driving at all times and wear safety belts properly.

## Off-Road Recovery

The vehicle's right wheels can drop off the edge of a road onto the shoulder while driving.



If the level of the shoulder is only slightly below the pavement, recovery should be fairly easy. Ease off the accelerator and then, if there is nothing in the way, steer so that the vehicle straddles the edge of the pavement. Turn the steering wheel 3 to 5 inches, 8 to 13 cm, (about one-eighth turn) until the right front tire contacts the pavement edge. Then turn the steering wheel to go straight down the roadway.

## Passing

Passing another vehicle on a two-lane road can be dangerous. To reduce the risk of danger while passing:

- Look down the road, to the sides, and to crossroads for situations that might affect a successful pass. If in doubt, wait.
- Watch for traffic signs, pavement markings, and lines that could indicate a turn or an intersection. Never cross a solid or double-solid line on your side of the lane.
- Do not get too close to the vehicle you want to pass. Doing so can reduce your visibility.
- Wait your turn to pass a slow vehicle.
- When you are being passed, ease to the right.

## Loss of Control

Let us review what driving experts say about what happens when the three control systems — brakes, steering, and acceleration — do not have enough friction where the tires meet the road to do what the driver has asked.

In any emergency, do not give up. Keep trying to steer and constantly seek an escape route or area of less danger.

## Skidding

In a skid, a driver can lose control of the vehicle. Defensive drivers avoid most skids by taking reasonable care suited to existing conditions, and by not overdriving those conditions. But skids are always possible.

The three types of skids correspond to the vehicle's three control systems. In the braking skid, the wheels are not rolling. In the steering or cornering skid, too much speed or steering in a curve causes tires to slip and lose cornering force. And in the acceleration skid, too much throttle causes the driving wheels to spin.

If the vehicle starts to slide, ease your foot off the accelerator pedal and quickly steer the way you want the vehicle to go. If you start steering quickly enough, the vehicle may straighten out. Always be ready for a second skid if it occurs.

Of course, traction is reduced when water, snow, ice, gravel, or other material is on the road. For safety, slow down and adjust your driving to these conditions. It is important to slow down on slippery surfaces because stopping distance is longer and vehicle control more limited.

While driving on a surface with reduced traction, try your best to avoid sudden steering, acceleration, or braking, including reducing vehicle speed by shifting to a lower gear. Any sudden changes could cause the tires to slide. You might not realize the surface is slippery until the vehicle is skidding. Learn to recognize warning clues — such as enough water, ice, or packed snow on the road to make a mirrored surface — and slow down when you have any doubt.

Remember: Any Antilock Brake System (ABS) helps avoid only the braking skid.

## Competitive Driving

See your warranty book before using your vehicle for competitive driving. After reviewing your warranty book, please see the GM Performance Parts website or catalog for parts and equipment required for competitive driving.

***Notice:*** **If you use your vehicle for competitive driving, the engine may use more oil than it would with normal use. Low oil levels can damage the engine. Be sure to check the oil level often during competitive driving and keep the level at or near the upper mark that shows the proper operating range on the engine oil dipstick. For information on how to add oil, see *Engine Oil on page 5-18*.**

## Off-Road Driving

Vehicles with four-wheel drive can be used for off-road driving. Vehicles without four-wheel drive should not be driven off-road except on a level, solid surface.

The airbag system is designed to work properly under a wide range of conditions, including off-road usage. Always wear your safety belt and observe safe driving speeds, especially on rough terrain.

Drinking and driving can be very dangerous on any road and this is certainly true for off-road driving. At the very time you need special alertness and driving skills, your reflexes, perceptions, and judgment can be affected by even a small amount of alcohol. You could have a serious — or even fatal — accident if you drink and drive or ride with a driver who has been drinking.

Off-roading can be great fun but has some definite hazards. The greatest of these is the terrain itself. When off-road driving, traffic lanes are not marked, curves are not banked, and there are no road signs. Surfaces can be slippery, rough, uphill, or downhill.

Avoid sharp turns and abrupt maneuvers. Failure to operate the vehicle correctly off-road could result in loss of vehicle control or vehicle rollover.

Off-roading involves some new skills. That is why it is very important that you read these driving tips and suggestions to help make off-road driving safer and more enjoyable.

## Before You Go Off-Roading

- Have all necessary maintenance and service work done.
- Make sure there is enough fuel, that fluid levels are where they should be, and that the spare tire, if the vehicle has one, is fully inflated.
- Be sure to read all the information about four-wheel-drive vehicles in this manual.
- Make sure all underbody shields, if the vehicle has them, are properly attached.
- Know the local laws that apply to off-roading where you will be driving or check with law enforcement people in the area.
- Be sure to get the necessary permission if you will be on private land.

## Loading Your Vehicle for Off-Road Driving

**⚠ CAUTION:**

- Cargo on the load floor piled higher than the seatbacks can be thrown forward during a sudden stop. You or your passengers could be injured. Keep cargo below the top of the seatbacks.
- Unsecured cargo on the load floor can be tossed about when driving over rough terrain. You or your passengers can be struck by flying objects. Secure the cargo properly.

CAUTION: (Continued)

**CAUTION: (Continued)**

- Heavy loads on the roof raise the vehicle's center of gravity, making it more likely to roll over. You can be seriously or fatally injured if the vehicle rolls over. Put heavy loads inside the cargo area, not on the roof. Keep cargo in the cargo area as far forward and low as possible.

There are some important things to remember about how to load your vehicle.

- The heaviest things should be on the floor, forward of the rear axle. Put heavier items as far forward as you can.
- Be sure the load is properly secured, so things are not tossed around.

You will find other important information under *Loading the Vehicle on page 4-33* and *Tires on page 5-58*.

## Environmental Concerns

Off-road driving can provide wholesome and satisfying recreation. However, it also raises environmental concerns. We recognize these concerns and urge every off-roader to follow these basic rules for protecting the environment:

- Always use established trails, roads, and areas that have been specially set aside for public off-road recreational driving and obey all posted regulations.
- Avoid any driving practice that could damage shrubs, flowers, trees, or grasses or disturb wildlife. This includes wheel-spinning, breaking down trees, or unnecessary driving through streams or over soft ground.
- Always carry a litter bag and make sure all refuse is removed from any campsite before leaving.
- Take extreme care with open fires (where permitted), camp stoves, and lanterns.
- Never park your vehicle over dry grass or other combustible materials that could catch fire from the heat of the vehicle's exhaust system.

## Traveling to Remote Areas

It makes sense to plan your trip, especially when going to a remote area. Know the terrain and plan your route. Get accurate maps of trails and terrain. Check to see if there are any blocked or closed roads.

It is also a good idea to travel with at least one other vehicle in case something happens to one of them.

For vehicles with a winch, be sure to read the winch instructions. In a remote area, a winch can be handy if you get stuck but you will want to know how to use it properly.

## Getting Familiar with Off-Road Driving

It is a good idea to practice in an area that is safe and close to home before you go into the wilderness. Off-roading requires some new and different skills.

Tune your senses to different kinds of signals. Your eyes need to constantly sweep the terrain for unexpected obstacles. Your ears need to listen for unusual tire or engine sounds. Use your arms, hands, feet, and body to respond to vibrations and vehicle bounce.

Controlling the vehicle is the key to successful off-road driving. One of the best ways to control the vehicle is to control the speed. At higher speeds:

- You approach things faster and have less time to react.
- There is less time to scan the terrain for obstacles.
- The vehicle has more bounce when driving over obstacles.
- More braking distance is needed, especially on an unpaved surface.

**⚠ CAUTION:**

When you are driving off-road, bouncing and quick changes in direction can easily throw you out of position. This could cause you to lose control and crash. So, whether you are driving on or off the road, you and your passengers should wear safety belts.

## Scanning the Terrain

Off-road driving can take you over many different kinds of terrain. Be familiar with the terrain and its many different features.

**Surface Conditions:** Off-roading surfaces can be hard-packed dirt, gravel, rocks, grass, sand, mud, snow, or ice. Each of these surfaces affects the vehicle's steering, acceleration, and braking in different ways. Depending on the surface, slipping, sliding, wheel spinning, delayed acceleration, poor traction, and longer braking distances can occur.

**Surface Obstacles:** Unseen or hidden obstacles can be hazardous. A rock, log, hole, rut, or bump can startle you if you are not prepared for them. Often these obstacles are hidden by grass, bushes, snow, or even the rise and fall of the terrain itself.

Some things to consider:

- Is the path ahead clear?
- Will the surface texture change abruptly up ahead?
- Does the travel take you uphill or downhill?
- Will you have to stop suddenly or change direction quickly?

When driving over obstacles or rough terrain, keep a firm grip on the steering wheel. Ruts, troughs, or other surface features can jerk the wheel out of your hands.

When driving over bumps, rocks, or other obstacles, the wheels can leave the ground. If this happens, even with one or two wheels, you cannot control the vehicle as well or at all.

Because you will be on an unpaved surface, it is especially important to avoid sudden acceleration, sudden turns, or sudden braking.

Off-roading requires a different kind of alertness from driving on paved roads and highways. There are no road signs, posted speed limits, or signal lights. Use good judgment about what is safe and what is not.

## Driving on Hills

Off-road driving often takes you up, down, or across a hill. Driving safely on hills requires good judgment and an understanding of what the vehicle can and cannot do. There are some hills that simply cannot be driven, no matter how well built the vehicle.

**⚠ CAUTION:**

Many hills are simply too steep for any vehicle. If you drive up them, you will stall. If you drive down them, you cannot control your speed. If you drive across them, you will roll over. You could be seriously injured or killed. If you have any doubt about the steepness, do not drive the hill.

## Approaching a Hill

When you approach a hill, decide if it is too steep to climb, descend, or cross. Steepness can be hard to judge. On a very small hill, for example, there may be a smooth, constant incline with only a small change in elevation where you can easily see all the way to the top. On a large hill, the incline may get steeper as you near the top, but you might not see this because the crest of the hill is hidden by bushes, grass, or shrubs.

Consider this as you approach a hill:

- Is there a constant incline, or does the hill get sharply steeper in places?
- Is there good traction on the hillside, or will the surface cause tire slipping?
- Is there a straight path up or down the hill so you will not have to make turning maneuvers?
- Are there obstructions on the hill that can block your path, such as boulders, trees, logs, or ruts?
- What is beyond the hill? Is there a cliff, an embankment, a drop-off, a fence? Get out and walk the hill if you do not know. It is the smart way to find out.
- Is the hill simply too rough? Steep hills often have ruts, gullies, troughs, and exposed rocks because they are more susceptible to the effects of erosion.

## Driving Uphill

Once you decide it is safe to drive up the hill:

- Use a low gear and get a firm grip on the steering wheel.
- Get a smooth start up the hill and try to maintain speed. Not using more power than needed can avoid spinning the wheels or sliding.

**⚠ CAUTION:**

Turning or driving across steep hills can be dangerous. You could lose traction, slide sideways, and possibly roll over. You could be seriously injured or killed. When driving up hills, always try to go straight up.

- Try to drive straight up the hill if at all possible. If the path twists and turns, you might want to find another route.
- Ease up on the speed as you approach the top of the hill.

- Attach a flag to the vehicle to be more visible to approaching traffic on trails or hills.
- Sound the horn as you approach the top of the hill to let opposing traffic know you are there.
- Use headlamps even during the day to make the vehicle more visible to oncoming traffic.

**⚠ CAUTION:**

Driving to the top (crest) of a hill at full speed can cause an accident. There could be a drop-off, embankment, cliff, or even another vehicle. You could be seriously injured or killed. As you near the top of a hill, slow down and stay alert.

If the vehicle stalls, or is about to stall, and you cannot make it up the hill:

- Push the brake pedal to stop the vehicle and keep it from rolling backwards and apply the parking brake.
- If the engine is still running, shift the transmission to R (Reverse), release the parking brake, and slowly back down the hill in R (Reverse).
- If the engine has stopped running, you need to restart it. With the brake pedal pressed and the parking brake still applied, shift the transmission to P (Park) and restart the engine. Then, shift to R (Reverse), release the parking brake, and slowly back down the hill as straight as possible in R (Reverse).
- While backing down the hill, put your left hand on the steering wheel at the 12 o'clock position so you can tell if the wheels are straight and can maneuver as you back down. It is best to back down the hill with the wheels straight rather than in the left or right direction. Turning the wheel too far to the left or right will increase the possibility of a rollover.

Things not to do if the vehicle stalls, or is about to stall, when going up a hill:

- Never attempt to prevent a stall by shifting into N (Neutral) to rev-up the engine and regain forward momentum. This will not work. The vehicle can roll backward very quickly and could go out of control.
- Never try to turn around if about to stall when going up a hill. If the hill is steep enough to stall the vehicle, it is steep enough to cause it to roll over. If you cannot make it up the hill, back straight down the hill.

If, after stalling, you try to back down the hill and decide you just cannot do it, set the parking brake, put your transmission in P (Park), and turn off the engine. Leave the vehicle and go get some help. Exit on the uphill side and stay clear of the path the vehicle would take if it rolled downhill. Do not shift the transfer case to Neutral when you leave the vehicle. Leave it in some gear.

**⚠ CAUTION:**

Shifting the transfer case to Neutral can cause your vehicle to roll even if the transmission is in P (Park). This is because the Neutral position on the transfer case overrides the transmission. You or someone else could be injured. If you are going to leave your vehicle, set the parking brake and shift the transmission to P (Park). But do not shift the transfer case to Neutral.

## Driving Downhill

When off-roading takes you downhill, consider:

- How steep is the downhill? Will I be able to maintain vehicle control?
- What is the surface like? Smooth? Rough? Slippery? Hard-packed dirt? Gravel?
- Are there hidden surface obstacles? Ruts? Logs? Boulders?
- What is at the bottom of the hill? Is there a hidden creek bank or even a river bottom with large rocks?

If you decide you can go down a hill safely, try to keep the vehicle headed straight down. Use a low gear so engine drag can help the brakes so they do not have to do all the work. Descend slowly, keeping the vehicle under control at all times.

**⚠ CAUTION:**

Heavy braking when going down a hill can cause your brakes to overheat and fade. This could cause loss of control and a serious accident. Apply the brakes lightly when descending a hill and use a low gear to keep vehicle speed under control.

Things not to do when driving down a hill:

- When driving downhill, avoid turns that take you across the incline of the hill. A hill that is not too steep to drive down might be too steep to drive across. The vehicle could roll over.
- Never go downhill with the transmission in N (Neutral), called free-wheeling. The brakes will have to do all the work and could overheat and fade.

Vehicles are much more likely to stall when going uphill, but if it happens when going downhill:

1. Stop the vehicle by applying the regular brakes and apply the parking brake.
2. Shift to P (Park) and, while still braking, restart the engine.
3. Shift back to a low gear, release the parking brake, and drive straight down.
4. If the engine will not start, get out and get help.

## Driving Across an Incline

An off-road trail will probably go across the incline of a hill. To decide whether to try to drive across the incline, consider the following:

**⚠ CAUTION:**

Driving across an incline that is too steep will make your vehicle roll over. You could be seriously injured or killed. If you have any doubt about the steepness of the incline, do not drive across it. Find another route instead.

- A hill that can be driven straight up or down might be too steep to drive across. When going straight up or down a hill, the length of the wheel base — the distance from the front wheels to the rear wheels — reduces the likelihood the vehicle will tumble end over end. But when driving across an incline, the narrower track width — the distance between the left and right wheels — might not prevent the vehicle from tilting and rolling over. Driving across an incline puts more weight on the downhill wheels which could cause a downhill slide or a rollover.
- Surface conditions can be a problem. Loose gravel, muddy spots, or even wet grass can cause the tires to slip sideways, downhill. If the vehicle slips sideways, it can hit something that will trip it — a rock, a rut, etc. — and roll over.
- Hidden obstacles can make the steepness of the incline even worse. If you drive across a rock with the uphill wheels, or if the downhill wheels drop into a rut or depression, the vehicle can tilt even more.

For these reasons, carefully consider whether to try to drive across an incline. Just because the trail goes across the incline does not mean you have to drive it. The last vehicle to try it might have rolled over.

If you feel the vehicle starting to slide sideways, turn downhill. This should help straighten out the vehicle and prevent the side slipping. The best way to prevent this is to “walk the course” first, so you know what the surface is like before driving it.

## Stalling on an Incline

**⚠ CAUTION:**

Getting out on the downhill (low) side of a vehicle stopped across an incline is dangerous. If the vehicle rolls over, you could be crushed or killed. Always get out on the uphill (high) side of the vehicle and stay well clear of the rollover path.

If the vehicle stalls when crossing an incline, be sure you, and any passengers, get out on the uphill side, even if the door there is harder to open. If you get out on the downhill side and the vehicle starts to roll over, you will be right in its path.

If you have to walk down the slope, stay out of the path the vehicle will take if it does roll over.

## Driving in Mud, Sand, Snow, or Ice

When you drive in mud, snow, or sand, the wheels do not get good traction. Acceleration is not as quick, turning is more difficult, and braking distances are longer.

It is best to use a low gear when in mud — the deeper the mud, the lower the gear. In really deep mud, keep the vehicle moving so it does not get stuck.

When driving on sand, wheel traction changes. On loosely packed sand, such as on beaches or sand dunes, the tires will tend to sink into the sand. This affects steering, accelerating, and braking. Drive at a reduced speed and avoid sharp turns or abrupt maneuvers.

Hard packed snow and ice offer the worst tire traction. On these surfaces, it is very easy to lose control. On wet ice, for example, the traction is so poor that you will have difficulty accelerating. And, if the vehicle does get moving, poor steering and difficult braking can cause it to slide out of control.

**⚠ CAUTION:**

Driving on frozen lakes, ponds, or rivers can be dangerous. Underwater springs, currents under the ice, or sudden thaws can weaken the ice. Your vehicle could fall through the ice and you and your passengers could drown. Drive your vehicle on safe surfaces only.

## Driving in Water

**⚠ CAUTION:**

Driving through rushing water can be dangerous. Deep water can sweep your vehicle downstream and you and your passengers could drown. If it is only shallow water, it can still wash away the ground from under your tires, and you could lose traction and roll the vehicle over. Do not drive through rushing water.

Heavy rain can mean flash flooding, and flood waters demand extreme caution.

Find out how deep the water is before driving through it. Do not try it if it is deep enough to cover the wheel hubs, axles, or exhaust pipe — you probably will not get through. Deep water can damage the axle and other vehicle parts.

If the water is not too deep, drive slowly through it. At faster speeds, water splashes on the ignition system and the vehicle can stall. Stalling can also occur if you get the tailpipe under water. If the tailpipe is under water, you will never be able to start the engine. When going through water, remember that when the brakes get wet, it might take longer to stop. See *Driving in Rain and on Wet Roads on page 4-27*.

## After Off-Road Driving

Remove any brush or debris that has collected on the underbody, chassis, or under the hood. These accumulations can be a fire hazard.

After operation in mud or sand, have the brake linings cleaned and checked. These substances can cause glazing and uneven braking. Check the body structure, steering, suspension, wheels, tires, and exhaust system for damage and check the fuel lines and cooling system for any leakage.

The vehicle requires more frequent service due to off-road use. Refer to the Maintenance Schedule for additional information.

## Driving at Night

Night driving is more dangerous than day driving because some drivers are likely to be impaired — by alcohol or drugs, with night vision problems, or by fatigue.

Night driving tips include:

- Drive defensively.
- Do not drink and drive.
- Reduce headlamp glare by adjusting the inside rearview mirror.
- Slow down and keep more space between you and other vehicles because headlamps can only light up so much road ahead.
- Watch for animals.
- When tired, pull off the road.
- Do not wear sunglasses.
- Avoid staring directly into approaching headlamps.
- Keep the windshield and all glass on your vehicle clean — inside and out.
- Keep your eyes moving, especially during turns or curves.

No one can see as well at night as in the daytime. But, as we get older, these differences increase. A 50-year-old driver might need at least twice as much light to see the same thing at night as a 20-year-old.

## Driving in Rain and on Wet Roads

Rain and wet roads can reduce vehicle traction and affect your ability to stop and accelerate. Always drive slower in these types of driving conditions and avoid driving through large puddles and deep-standing or flowing water.

**⚠ CAUTION:**

Wet brakes can cause crashes. They might not work as well in a quick stop and could cause pulling to one side. You could lose control of the vehicle.

After driving through a large puddle of water or a car/vehicle wash, lightly apply the brake pedal until the brakes work normally.

Flowing or rushing water creates strong forces. Driving through flowing water could cause your vehicle to be carried away. If this happens, you and other vehicle occupants could drown. Do not ignore police warnings and be very cautious about trying to drive through flowing water.

## Hydroplaning

Hydroplaning is dangerous. Water can build up under your vehicle's tires so they actually ride on the water. This can happen if the road is wet enough and you are going fast enough. When your vehicle is hydroplaning, it has little or no contact with the road.

There is no hard and fast rule about hydroplaning. The best advice is to slow down when the road is wet.

## Other Rainy Weather Tips

Besides slowing down, other wet weather driving tips include:

- Allow extra following distance.
- Pass with caution.
- Keep windshield wiping equipment in good shape.
- Keep the windshield washer fluid reservoir filled.
- Have good tires with proper tread depth. See *Tires on page 5-58*.
- Turn off cruise control.

# Before Leaving on a Long Trip

To prepare your vehicle for a long trip, consider having it serviced by your dealer/retailer before departing.

Things to check on your own include:

- *Windshield Washer Fluid:* Reservoir full? Windows clean — inside and outside?
- *Wiper Blades:* In good shape?
- *Fuel, Engine Oil, Other Fluids:* All levels checked?
- *Lamps:* Do they all work and are lenses clean?
- *Tires:* Are treads good? Are tires inflated to recommended pressure?
- *Weather and Maps:* Safe to travel? Have up-to-date maps?

# Highway Hypnosis

Always be alert and pay attention to your surroundings while driving. If you become tired or sleepy, find a safe place to park your vehicle and rest.

Other driving tips include:

- Keep the vehicle well ventilated.
- Keep interior temperature cool.
- Keep your eyes moving — scan the road ahead and to the sides.
- Check the rearview mirror and vehicle instruments often.

## Hill and Mountain Roads

Driving on steep hills or through mountains is different than driving on flat or rolling terrain. Tips for driving in these conditions include:

- Keep the vehicle serviced and in good shape.
- Check all fluid levels and brakes, tires, cooling system, and transmission.
- Going down steep or long hills, shift to a lower gear.

**⚠ CAUTION:**

If you do not shift down, the brakes could get so hot that they would not work well. You would then have poor braking or even none going down a hill. You could crash. Shift down to let the engine assist the brakes on a steep downhill slope.

**⚠ CAUTION:**

Coasting downhill in N (Neutral) or with the ignition off is dangerous. The brakes will have to do all the work of slowing down and they could get so hot that they would not work well. You would then have poor braking or even none going down a hill. You could crash. Always have the engine running and the vehicle in gear when going downhill.

- Stay in your own lane. Do not swing wide or cut across the center of the road. Drive at speeds that let you stay in your own lane.
- Top of hills: Be alert — something could be in your lane (stalled car, accident).
- Pay attention to special road signs (falling rocks area, winding roads, long grades, passing or no-passing zones) and take appropriate action.

See *Off-Road Driving on page 4-14* for information about driving off-road.

# Winter Driving

## Driving on Snow or Ice

Drive carefully when there is snow or ice between the tires and the road, creating less traction or grip. Wet ice can occur at about 32°F (0°C) when freezing rain begins to fall, resulting in even less traction. Avoid driving on wet ice or in freezing rain until roads can be treated with salt or sand.

Drive with caution, whatever the condition. Accelerate gently so traction is not lost. Accelerating too quickly causes the wheels to spin and makes the surface under the tires slick, so there is even less traction.

Try not to break the fragile traction. If you accelerate too fast, the drive wheels will spin and polish the surface under the tires even more.

The *Antilock Brake System (ABS) on page 4-5* improves vehicle stability during hard stops on a slippery roads, but apply the brakes sooner than when on dry pavement.

Allow greater following distance on any slippery road and watch for slippery spots. Icy patches can occur on otherwise clear roads in shaded areas. The surface of a curve or an overpass can remain icy when the surrounding roads are clear. Avoid sudden steering maneuvers and braking while on ice.

Turn off cruise control, if equipped, on slippery surfaces.

## Blizzard Conditions

Being stuck in snow can be in a serious situation. Stay with the vehicle unless there is help nearby. If possible, use the *Roadside Assistance Program on page 7-7*. To get help and keep everyone in the vehicle safe:

- Turn on the *Hazard Warning Flashers on page 3-6*.
- Tie a red cloth to an outside mirror.

**⚠ CAUTION:**

Snow can trap engine exhaust under the vehicle. This may cause exhaust gases to get inside. Engine exhaust contains carbon monoxide (CO) which cannot be seen or smelled. It can cause unconsciousness and even death.

If the vehicle is stuck in the snow:

- Clear away snow from around the base of your vehicle, especially any that is blocking the exhaust pipe.
- Check again from time to time to be sure snow does not collect there.

CAUTION: (Continued)

**CAUTION: (Continued)**

- Open a window about two inches (5 cm) on the side of the vehicle that is away from the wind to bring in fresh air.
- Fully open the air outlets on or under the instrument panel.
- Adjust the Climate Control system to a setting that circulates the air inside the vehicle and set the fan speed to the highest setting. See Climate Control System in the Index.

For more information about carbon monoxide, see *Engine Exhaust on page 2-38*.

Snow can trap exhaust gases under your vehicle. This can cause deadly CO (carbon monoxide) gas to get inside. CO could overcome you and kill you. You cannot see it or smell it, so you might not know it is in your vehicle. Clear away snow from around the base of your vehicle, especially any that is blocking the exhaust.

Run the engine for short periods only as needed to keep warm, but be careful.

To save fuel, run the engine for only short periods as needed to warm the vehicle and then shut the engine off and close the window most of the way to save heat. Repeat this until help arrives but only when you feel really uncomfortable from the cold. Moving about to keep warm also helps.

If it takes some time for help to arrive, now and then when you run the engine, push the accelerator pedal slightly so the engine runs faster than the idle speed. This keeps the battery charged to restart the vehicle and to signal for help with the headlamps. Do this as little as possible to save fuel.

## If Your Vehicle is Stuck in Sand, Mud, Ice, or Snow

Slowly and cautiously spin the wheels to free the vehicle when stuck in sand, mud, ice, or snow. See *Rocking Your Vehicle to Get It Out on page 4-32*.

If the vehicle has a traction system, it can often help to free a stuck vehicle. Refer to the vehicle's traction system in the Index. If stuck too severely for the traction system to free the vehicle, turn the traction system off and use the rocking method.

**⚠ CAUTION:**

If you let your vehicle's tires spin at high speed, they can explode, and you or others could be injured. The vehicle can overheat, causing an engine compartment fire or other damage. Spin the wheels as little as possible and avoid going above 35 mph (55 km/h) as shown on the speedometer.

For information about using tire chains on the vehicle, see *Tire Chains on page 5-81*.

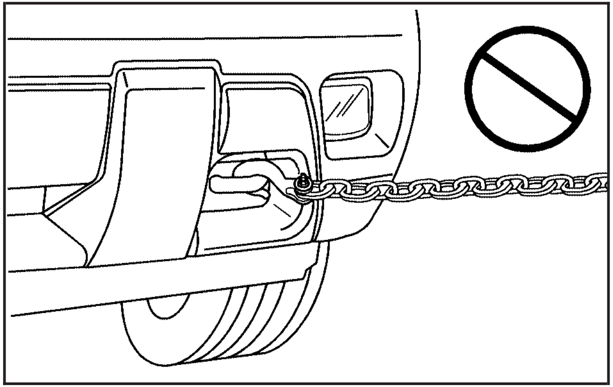
## Rocking Your Vehicle to Get It Out

Turn the steering wheel left and right to clear the area around the front wheels. For four-wheel-drive vehicles, shift into Four-Wheel High. For vehicles with StabiliTrak®, turn the traction control part of the system off. Shift back and forth between R (Reverse) and a forward gear, spinning the wheels as little as possible. To prevent transmission wear, wait until the wheels stop spinning before shifting gears. Release the accelerator pedal while shifting, and press lightly on the accelerator pedal when the transmission is in gear. Slowly spinning the wheels in the forward and reverse directions causes a rocking motion that could free the vehicle. If that does not get the vehicle out after a few tries, it might need to be towed out. Recovery hooks can be used, if the vehicle has them. If the vehicle does need to be towed out, see *Towing Your Vehicle on page 4-40*.

## Recovery Hooks

**⚠ CAUTION:**

These hooks, when used, are under a lot of force. Always pull the vehicle straight out. Never pull on the hooks at a sideways angle. The hooks could break off and you or others could be injured from the chain or cable snapping back.



**Notice:** **Never use recovery hooks to tow the vehicle. Your vehicle could be damaged and it would not be covered by warranty.**

For vehicles with recovery hooks at the front of the vehicle, you can use them if you're stuck off-road and need to be pulled to some place where you can continue driving.

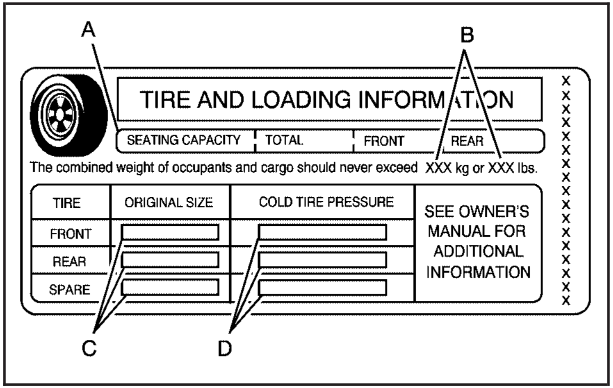
## Loading the Vehicle

It is very important to know how much weight your vehicle can carry. This weight is called the vehicle capacity weight and includes the weight of all occupants, cargo, and all nonfactory-installed options. Two labels on your vehicle show how much weight it was designed to carry, the Tire and Loading Information label and the Certification/Tire label.

**⚠ CAUTION:**

Do not load the vehicle any heavier than the Gross Vehicle Weight Rating (GVWR), or either the maximum front or rear Gross Axle Weight Rating (GAWR). If you do, parts on the vehicle can break, and it can change the way your vehicle handles. These could cause you to lose control and crash. Also, overloading can shorten the life of the vehicle.

## Tire and Loading Information Label




**Label Example**

A vehicle specific Tire and Loading Information label is attached to the center pillar (B-pillar). With the driver's door open, you will find the label attached below the door lock post (striker).

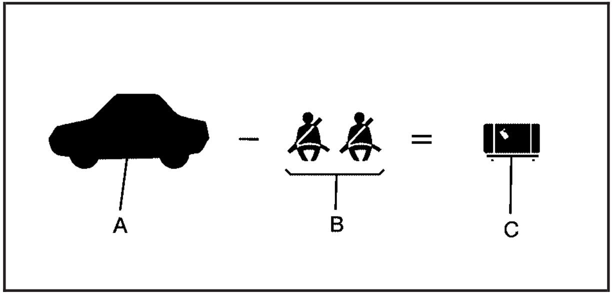
The Tire and Loading Information label shows the number of occupant seating positions (A), and the maximum vehicle capacity weight (B) in kilograms and pounds.

The Tire and Loading Information label also shows the size of the original equipment tires (C) and the recommended cold tire inflation pressures (D). For more information on tires and inflation see *Tires on page 5-58* and *Inflation - Tire Pressure on page 5-65*.

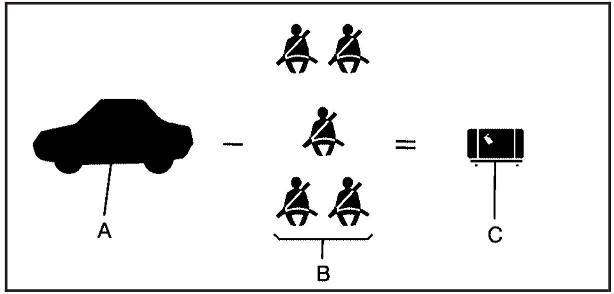
There is also important loading information on the vehicle Certification/Tire label. It tells you the Gross Vehicle Weight Rating (GVWR) and the Gross Axle Weight Rating (GAWR) for the front and rear axle. See "Certification/Tire Label" later in this section.

### Steps for Determining Correct Load Limit

1. Locate the statement “The combined weight of occupants and cargo should never exceed XXX kg or XXX lbs” on your vehicle’s placard.
2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kg or XXX lbs.
4. The resulting figure equals the available amount of cargo and luggage load capacity. For example, if the “XXX” amount equals 1400 lbs and there will be five 150 lb passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lbs (1400 – 750 (5 x 150) = 650 lbs).
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.
6. If your vehicle will be towing a trailer, the load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity of your vehicle. See *Towing a Trailer on page 4-48* for important information on towing a trailer, towing safety rules and trailering tips.



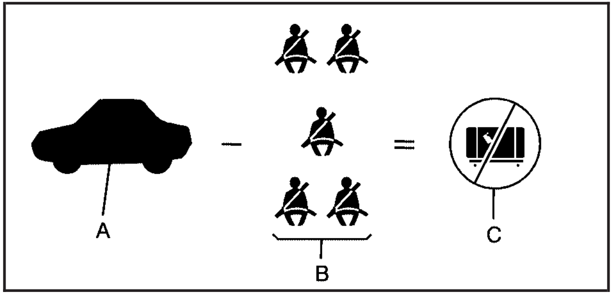

**Example 1**




**Example 2**

| Item | Description | Total |
|---|---|---|
| A | Vehicle Capacity Weight for Example 1 = | 1,000 lbs (453 kg) |
| B | Subtract Occupant Weight 150 lbs (68 kg) × 2 = | 300 lbs (136 kg) |
| C | Available Occupant and Cargo Weight = | 700 lbs (317 kg) |

| Item | Description | Total |
|---|---|---|
| A | Vehicle Capacity Weight for Example 2 = | 1,000 lbs (453 kg) |
| B | Subtract Occupant Weight 150 lbs (68 kg) × 5 = | 750 lbs (136 kg) |
| C | Available Cargo Weight = | 250 lbs (113 kg) |



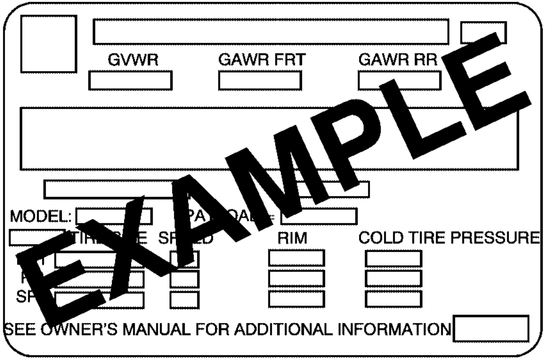

**Example 3**

| Item | Description | Total |
|---|---|---|
| A | Vehicle Capacity Weight for Example 3 = | 1,000 lbs (453 kg) |
| B | Subtract Occupant Weight 200 lbs (91 kg) × 5 = | 1,000 lbs (453 kg) |
| C | Available Cargo Weight = | 0 lbs (0 kg) |

Refer to your vehicle's Tire and Loading Information label for specific information about your vehicle's capacity weight and seating positions. The combined weight of the driver, passengers, and cargo should never exceed your vehicle's capacity weight.

Your vehicle may have an electronically controlled air suspension system that automatically keeps your vehicle level as you load and unload your vehicle. See *Electronically Controlled Air Suspension System on page 4-47* for additional information.

## Certification/Tire Label




A vehicle specific Certification/Tire label is found on the rear edge of the driver's door. The label shows the size of your vehicle's original tires and the inflation pressures needed to obtain the gross weight capacity of your vehicle. This is called Gross Vehicle Weight Rating (GVWR). The GVWR includes the weight of the vehicle, all occupants, fuel, cargo, and trailer tongue weight, if pulling a trailer.

The Certification/Tire label also tells you the maximum weights for the front and rear axles, called Gross Axle Weight Rating (GAWR).

To find out the actual loads on your front and rear axles, you need to go to a weigh station and weigh your vehicle. Your dealer can help you with this. Be sure to spread out your load equally on both sides of the centerline.

Never exceed the GVWR for your vehicle, or the GAWR for either the front or rear axle.

And, if you do have a heavy load, you should spread it out.

Similar appearing vehicles may have different GVWRs and capacity weights. Please note your vehicle's Certification/Tire label or consult your dealer for additional details.

**⚠ CAUTION:**

Do not load the vehicle any heavier than the Gross Vehicle Weight Rating (GVWR), or either the maximum front or rear Gross Axle Weight Rating (GAWR). If you do, parts on the vehicle can break, and it can change the way your vehicle handles. These could cause you to lose control and crash. Also, overloading can shorten the life of the vehicle.

Using heavier suspension components to get added durability might not change your vehicle's weight ratings. Ask your dealer to help you load your vehicle the right way.

***Notice:*** **Overloading your vehicle may cause damage. Repairs would not be covered by your warranty. Do not overload your vehicle.**

If you put things inside your vehicle — like suitcases, tools, packages, or anything else — they will go as fast as the vehicle goes. If you have to stop or turn quickly, or if there is a crash, they will keep going.

**⚠ CAUTION:**

Things you put inside your vehicle can strike and injure people in a sudden stop or turn, or in a crash.

- Put things in the cargo area of your vehicle. Try to spread the weight evenly.
- Never stack heavier things, like suitcases, inside the vehicle so that some of them are above the tops of the seats.

CAUTION: (Continued)

**CAUTION: (Continued)**

- Do not leave an unsecured child restraint in your vehicle.
- When you carry something inside the vehicle, secure it whenever you can.
- Do not leave a seat folded down unless you need to.

There is also important loading information for off-road driving in this manual. See "Loading Your Vehicle for Off-Road Driving" under *Off-Road Driving on page 4-14*.

## Adding a Snow Plow or Similar Equipment

Your vehicle was neither designed nor intended for a snow plow.

***Notice:*** **Adding a snow plow or similar equipment to your vehicle can damage it, and the repairs would not be covered by warranty. Do not install a snow plow or similar equipment on your vehicle.**

# Towing

## Towing Your Vehicle

To avoid damage, the disabled vehicle should be towed with all four wheels off the ground. Consult your dealer/retailer or a professional towing service if the disabled vehicle must be towed. See *Roadside Assistance Program on page 7-7*.

To tow the vehicle behind another vehicle for recreational purposes (such as behind a motorhome), see "Recreational Vehicle Towing" following.

## Recreational Vehicle Towing

Recreational vehicle towing means towing the vehicle behind another vehicle – such as behind a motorhome. The two most common types of recreational vehicle towing are known as dinghy towing and dolly towing. Dinghy towing is towing the vehicle with all four wheels on the ground. Dolly towing is towing the vehicle with two wheels on the ground and two wheels up on a device known as a dolly.

Here are some important things to consider before recreational vehicle towing:

- What is the towing capacity of the towing vehicle? Be sure to read the tow vehicle manufacturer's recommendations.
- What is the distance that will be travelled? Some vehicles have restrictions on how far and how long they can tow.
- Is the proper towing equipment going to be used? See your dealer/retailer or trailering professional for additional advice and equipment recommendations.
- Is the vehicle ready to be towed? Just as preparing the vehicle for a long trip, make sure the vehicle is prepared to be towed. See *Before Leaving on a Long Trip on page 4-28*.

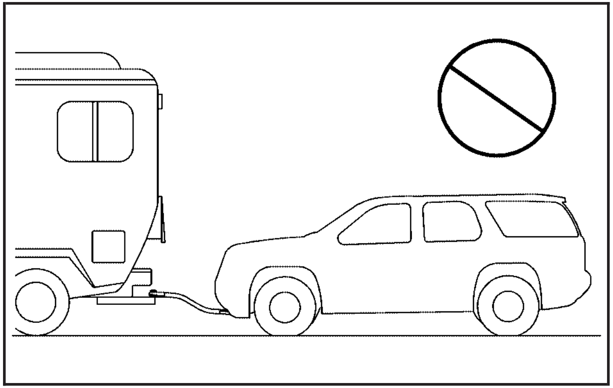
## All-Wheel-Drive Vehicles (TrailBlazer SS)

***Notice:*** **Towing an all-wheel-drive vehicle with all four wheels on the ground, or even with only two of its wheels on the ground, will damage drivetrain components. Do not tow an all-wheel-drive vehicle with any of its wheels on the ground.**

The vehicle was not designed to be towed with any of its wheels on the ground. If the vehicle must be towed, see "Towing Your Vehicle" earlier in this section.

# Dinghy Towing

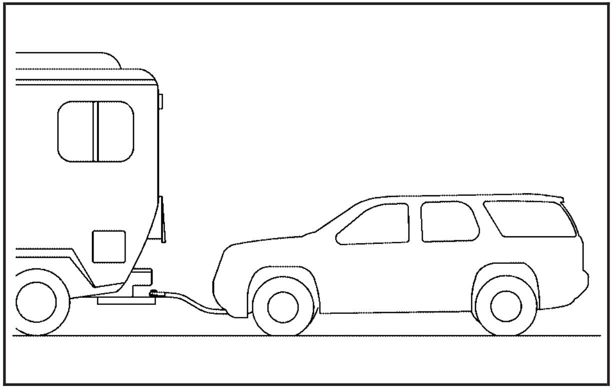
## Two-Wheel-Drive Vehicles



***Notice:*** **If the vehicle is towed with all four wheels on the ground, the drivetrain components could be damaged. The repairs would not be covered by the vehicle warranty. Do not tow the vehicle with all four wheels on the ground.**

Two-wheel-drive vehicles should not be towed with all four wheels on the ground. Two-wheel-drive transmissions have no provisions for internal lubrication while being towed. To properly tow these vehicles, they should be placed on a flatbed truck or trailer.

## Four-Wheel-Drive Vehicles



Four-wheel-drive vehicles can be dinghy towed if the proper procedures are followed. The transmission has no provisions for internal lubrication while being towed, so it is important that all the steps listed in this manual are followed to dinghy tow a four-wheel-drive vehicle.

Use the following procedure to dinghy tow a four-wheel-drive vehicle:

1. Position the vehicle being towed behind the tow vehicle and shift the transmission to P (Park).
2. Turn the engine off, but leave the ignition in the ACC/ACCESSORY position.
3. Firmly set the parking brake.
4. Securely attach the vehicle being towed to the tow vehicle.

## ⚠ CAUTION:

Shifting a four-wheel-drive vehicle's transfer case into N (Neutral) can cause the vehicle to roll even if the transmission is in P (Park). The driver or others could be injured. Make sure the parking brake is firmly set before the transfer case is shifted to N (Neutral).

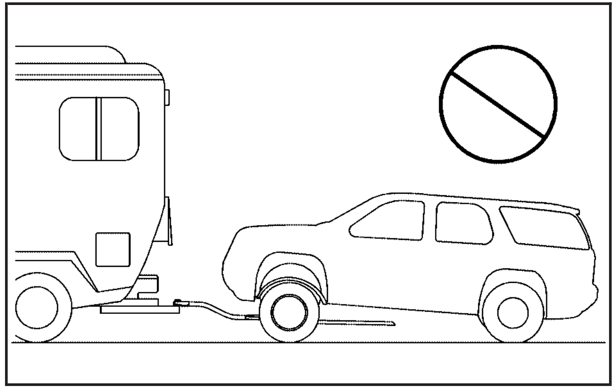
5. Shift the transfer case to Neutral. See "Shifting into Neutral" under *Four-Wheel Drive on page 2-30*.
6. Release the parking brake only after the vehicle being towed is firmly attached to the towing vehicle.
7. Turn the ignition to LOCK/OFF and remove the key — the steering wheel will still turn.

After towing, see "Shifting Out of Neutral" under *Four-Wheel Drive on page 2-30*.

# Dolly Towing

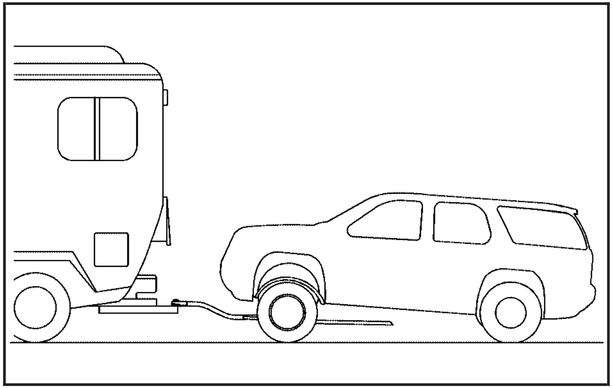
## Front Towing (Front Wheels Off the Ground)

## Two-Wheel-Drive Vehicles



***Notice:*** **If a two-wheel-drive vehicle is towed with the rear wheels on the ground, the transmission could be damaged. The repairs would not be covered by the vehicle warranty. Never tow the vehicle with the rear wheels on the ground.**

### Four-Wheel-Drive Vehicles



Use the following procedure to dolly tow a four-wheel-drive vehicle from the front with the rear wheels on the ground:

1. Attach the dolly to the tow vehicle following the dolly manufacturer's instructions.
2. Drive the front wheels onto the dolly.
3. Shift the transmission to P (Park).
4. Firmly set the parking brake.

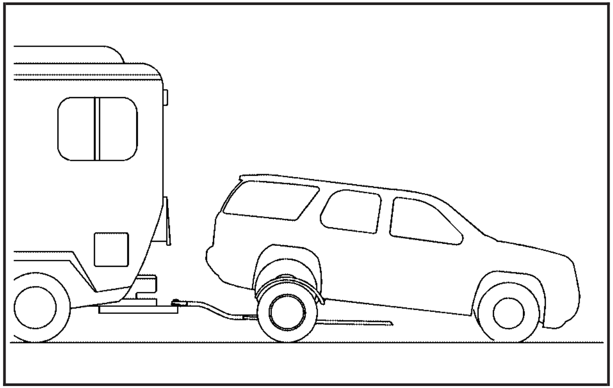
**⚠ CAUTION:**

Shifting a four-wheel-drive vehicle's transfer case into N (Neutral) can cause the vehicle to roll even if the transmission is in P (Park). The driver or others could be injured. Make sure the parking brake is firmly set before the transfer case is shifted to N (Neutral).

5. Shift the transfer case to Neutral. See "Shifting into Neutral" under *Four-Wheel Drive on page 2-30*.
6. Secure the vehicle to the dolly following the manufacturer's instructions.
7. Release the parking brake only after the vehicle being towed is firmly attached to the dolly.
8. Turn the ignition to LOCK/OFF.

After towing, see "Shifting Out of Neutral" under *Four-Wheel Drive on page 2-30*.

## Rear Towing (Rear Wheels Off the Ground)



### Two-Wheel-Drive Vehicles

Use the following procedure to dolly tow a two-wheel-drive vehicle from the rear:

1. Attach the dolly to the tow vehicle following the dolly manufacturer's instructions.
2. Drive the rear wheels onto the dolly.
3. Firmly set the parking brake. See *Parking Brake on page 2-34*.
4. Put the transmission in P (Park).
5. Secure the vehicle to the dolly following the manufacturer's instructions.
6. Use an adequate clamping device designed for towing to ensure that the front wheels are locked into the straight position.
7. Turn the ignition to LOCK/OFF.

### Four-Wheel-Drive Vehicles

Use the following procedure to dolly tow a four-wheel-drive vehicle from the rear:

1. Attach the dolly to the tow vehicle following the dolly manufacturer's instructions.
2. Drive the rear wheels onto the dolly.
3. Firmly set the parking brake. See *Parking Brake on page 2-34*.
4. Put the transmission in P (Park).
5. Secure the vehicle to the dolly following the manufacturer's instructions.
6. Use an adequate clamping device designed for towing to ensure that the front wheels are locked into the straight position.

**⚠ CAUTION:**

Shifting a four-wheel-drive vehicle's transfer case into N (Neutral) can cause the vehicle to roll even if the transmission is in P (Park). The driver or others could be injured. Make sure the parking brake is firmly set before the transfer case is shifted to N (Neutral).

7. Shift the transfer case to Neutral. See "Shifting into Neutral" under *Four-Wheel Drive on page 2-30*.
8. Turn the ignition to LOCK/OFF.

After towing, see "Shifting Out of Neutral" under *Four-Wheel Drive on page 2-30*.

## Electronically Controlled Air Suspension System

With this feature, an electronically controlled air suspension system automatically keeps the vehicle level as it is loaded and unloaded. The system includes a compressor, two height sensors and two air springs supporting the rear axle.

The system also has an internal clock to prevent overheating if the inflator is used for prolonged periods. If the system overheats, all leveling function stops until the system cools down.

The ignition has to be on for the system to inflate, in order to raise the vehicle to the standard ride height after loading. The system can lower the vehicle to the standard ride height after unloading with the ignition on and also for up to 30 minutes after the ignition has been turned off.

The compressor may be heard while it is operating when the vehicle is being loaded, and periodically as the system adjusts the vehicle to the standard ride height.

Load leveling will not function normally with the inflator hose attached to the inflator outlet. Remove the inflator hose from the outlet during loading and unloading.

If the vehicle is parked for an extended period of time, some bleed down of the suspension is normal. Upon starting the vehicle, proper height will be achieved.

### Overload Protection

The air suspension system is equipped with overload protection. Overload protection is designed to protect the air suspension system, and it is an indicator to the driver that the vehicle is overloaded. When the overload protection mode is on, it will not allow damage to the air compressor. However, do not overload the vehicle. See *Loading the Vehicle on page 4-33*.

If the suspension remains at a low height, the rear axle load has exceeded GAWR (Gross Axle Weight Rating). When the overload protection mode is activated, the compressor operates for about 30 seconds to one minute without raising the vehicle depending on the amount of overload. This will continue each time the ignition is turned on until the rear axle load is reduced below GAWR.

### Indicator Light

The indicator light on the inflator switch in the rear passenger compartment also serves as an indicator for internal system error. If the indicator light is flashing without the load leveling function or the inflator being active, turn off the ignition. The next day turn on the ignition and check the indicator light. The vehicle can be driven with the light flashing, but if it is, the vehicle should be serviced as soon as possible.

## Towing a Trailer

**⚠ CAUTION:**

The driver can lose control when pulling a trailer if the correct equipment is not used or the vehicle is not driven properly. For example, if the trailer is too heavy, the brakes may not work well — or even at all. The driver and passengers could be seriously injured. The vehicle may also be damaged; the resulting repairs would not be covered by the vehicle warranty. Pull a trailer only if all the steps in this section have been followed. Ask your dealer/retailer for advice and information about towing a trailer with the vehicle.

***Notice:*** **Pulling a trailer improperly can damage the vehicle and result in costly repairs not covered by the vehicle warranty. To pull a trailer correctly, follow the advice in this section and see your dealer/retailer for important information about towing a trailer with the vehicle.**

To identify the trailering capacity of the vehicle, read the information in “Weight of the Trailer” that appears later in this section.

Trailering is different than just driving the vehicle by itself. Trailering means changes in handling, acceleration, braking, durability and fuel economy. Successful, safe trailering takes correct equipment, and it has to be used properly.

The following information has many time-tested, important trailering tips and safety rules. Many of these are important for your safety and that of your passengers. So please read this section carefully before pulling a trailer.

## Pulling A Trailer

Here are some important points:

- There are many different laws, including speed limit restrictions, having to do with trailering. Make sure the rig will be legal, not only where you live but also where you will be driving. A good source for this information can be state or provincial police.
- Consider using a sway control. See "Hitches" later in this section.
- Do not tow a trailer at all during the first 500 miles (800 km) the new vehicle is driven. The engine, axle or other parts could be damaged.
- Then, during the first 500 miles (800 km) that a trailer is towed, do not drive over 50 mph (80 km/h) and do not make starts at full throttle. This helps the engine and other parts of the vehicle wear in at the heavier loads.
- Vehicles with an automatic transmissions can tow in D (Drive). Shift the transmission to a lower gear if the transmission shifts too often under heavy loads and/or hilly conditions.

Three important considerations have to do with weight:

- The weight of the trailer
- The weight of the trailer tongue
- The weight on the vehicle's tires

## Weight of the Trailer

How heavy can a trailer safely be?

It depends on how the rig is used. For example, speed, altitude, road grades, outside temperature and how much the vehicle is used to pull a trailer are all important. It can depend on any special equipment on the vehicle, and the amount of tongue weight the vehicle can carry. See "Weight of the Trailer Tongue" later in this section for more information.

Maximum trailer weight is calculated assuming only the driver is in the tow vehicle and it has all the required trailering equipment. The weight of additional optional equipment, passengers and cargo in the tow vehicle must be subtracted from the maximum trailer weight.

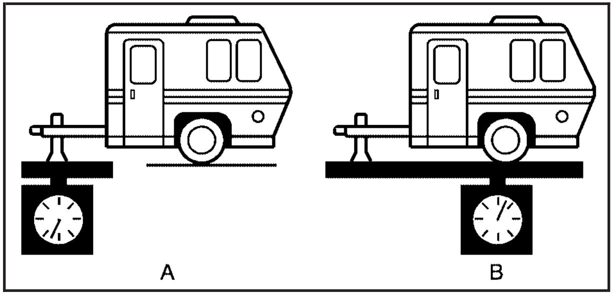
Look in the following chart to find the maximum trailer weight for the vehicle.

| Vehicle | Axle Ratio | Max. Trailer Wt. | *GCWR |
|---|---|---|---|
| 2WD TrailBlazer (4.2 L L6 Engine) | 3.42 | 5,400 lbs (2 449 kg) | 10,000 lbs (4 536 kg) |
| | 3.73 | 5,900 lbs (2 676 kg) | 10,500 lbs (4 763 kg) |
| | 4.10 | 6,400 lbs (2 903 kg) | 11,000 lbs (4 990 kg) |
| 4WD TrailBlazer (4.2 L L6 Engine) | 3.42 | 5,200 lbs (2 359 kg) | 10,000 lbs (4 536 kg) |
| | 3.73 | 5,700 lbs (2 585 kg) | 10,500 lbs (4 763 kg) |
| | 4.10 | 6,200 lbs (2 812 kg) | 11,000 lbs (4 990 kg) |
| 2WD TrailBlazer (5.3 L V8 Engine) | 3.42 | 6,300 lbs (2 858 kg) | 11,000 lbs (4 990 kg) |
| | 3.73 | 6,800 lbs (3 084 kg) | 11,500 lbs (5 216 kg) |
| 4WD TrailBlazer (5.3 L V8 Engine) | 3.42 | 6,100 lbs (2 767 kg) | 11,000 lbs (4 990 kg) |
| | 3.73 | 6,600 lbs (2 994 kg) | 11,500 lbs (5 216 kg) |
| **2WD TrailBlazer SS (6.0 L V8 Engine) | 4.10 | 6,800 lbs (3 084 kg) | 11,500 lbs (5 216 kg) |
| **AWD TrailBlazer SS (6.0 L V8 Engine) | 4.10 | 6,600 lbs (2 994 kg) | 11,500 lbs (5 216 kg) |
| *The Gross Combination Weight Rating (GCWR) is the total allowable weight of the completely loaded vehicle and trailer including any passengers, cargo, equipment and conversion. The GCWR for the vehicle should not be exceeded.<br>**TrailBlazer SS models with the 6.0L engine require Performance Sport Package (B4U). | | | |

Ask your dealer for our trailering information or advice, or write us at our Customer Assistance Offices. See *Customer Assistance Offices on page 7-6* for more information.

## Weight of the Trailer Tongue

The tongue load (A) of any trailer is an important weight to measure because it affects the total gross weight of the vehicle. The Gross Vehicle Weight (GVW) includes the curb weight of the vehicle, any cargo carried in it, and the people who will be riding in the vehicle. If there are a lot of options, equipment, passengers or cargo in the vehicle, it will reduce the tongue weight the vehicle can carry, which will also reduce the trailer weight the vehicle can tow. If towing a trailer, the tongue load must be added to the GVW because the vehicle will be carrying that weight, too. See *Loading the Vehicle on page 4-33* for more information about the vehicle's maximum load capacity.




The trailer tongue weight (A) should be 10 percent to 15 percent of the total loaded trailer weight, up to a maximum or 400 lbs (181 kg) with a weight carrying hitch. The trailer tongue weight (A) should be 10 percent to 15 percent of the total loaded trailer weight, up to a maximum of 900 lbs (408 kg) with a weight distributing hitch.

Do not exceed the maximum allowable tongue weight for the vehicle. Choose the shortest hitch extension that will position the hitch ball closest to the vehicle. This will help reduce the effect of trailer tongue weight on the rear axle.

After loading the trailer, weigh the trailer and then the tongue, separately, to see if the weights are proper. If they are not, adjustments might be made by moving some items around in the trailer.

Trailering may be limited by the vehicle's ability to carry tongue weight. Tongue weight cannot cause the vehicle to exceed the GVWR (Gross Vehicle Weight Rating) or the RGAWR (Rear Gross Axle Weight Rating). The effect of additional weight may reduce your trailering capacity more than the total of the additional weight.

Consider the following example:

A vehicle model base weight is 5,500 lbs (2 495 kg); 2,800 lbs (1 270 kg) at the front axle and 2,700 lbs (1 225 kg) at the rear axle. It has a GVWR of 7,200 lbs (3 266 kg), a RGAWR of 4,000 lbs (1 814 kg) and a GCWR (Gross Combination Weight Rating) of 14,000 lbs (6 350 kg). The trailer rating should be:

| | | |
|---|---|---|
| 14,000 lbs | (6350 kg) | GCWR |
| −5,500 lbs | (2495 kg) | Vehicle Weight |
| 8,500 lbs | (3855 kg) | Trailer Rating |

Expect tongue weight to be at least 10 percent of trailer weight (850 lbs (386 kg)) and because the weight is applied well behind the rear axle, the effect on the rear axle is greater than just the weight itself, as much as 1.5 times as much. The weight at the rear axle could be 850 lbs (386 kg) X 1.5 = 1,275 lbs (578 kg). Since the rear axle already weighs 2,700 lbs (1 225 kg), adding 1,275 lbs (578 kg) brings the total to 3,975 lbs (1 803 kg). This is very close to, but within the limit for RGAWR as well. The vehicle is set to trailer up to 8,500 lbs (3 856 kg).

If the vehicle has many options and there is a front seat passenger and two rear seat passengers with some luggage and gear in the vehicle as well. 300 lbs (136 kg) could be added to the front axle weight and 400 lbs (181 kg) to the rear axle weight. The vehicle now weighs:

| | | | | |
|---|---|---|---|---|
| 2,800 lbs | (1270 kg) | + | 300 lbs (136 kg) | Front |
| 2,700 lbs | (1225 kg) | + | 400 lbs (181 kg) | Rear |
| | | 6,200 lbs (2812 kg) | | Total |

Weight is still below 7,200 lbs (3 266 kg) and you might think 700 additional pounds (318 kg) should be subtracted from the trailering capacity to stay within GCWR limits. The maximum trailer would only be 7,800 lbs (3 538 kg). You may go further and think the tongue weight should be limited to less than 1,000 lbs (454 kg) to avoid exceeding GVWR. But the effect on the rear axle must still be considered. Because the rear axle now weighs 3,100 lbs (1 406 kg), 900 lbs (408 kg) can be put on the rear axle without exceeding RGAWR. The effect of tongue weight is about 1.5 times the actual weight. Dividing the 900 lbs (408 kg) by 1.5 leaves only 600 lbs (272 kg) of tongue weight that can be handled.

Since tongue weight is usually at least 10 percent of total loaded trailer weight, expect that the largest trailer the vehicle can properly handle is 6,000 lbs (2 721 kg).

It is important that the vehicle does not exceed any of its ratings — GCWR, GVWR, RGAWR, Maximum Trailer Rating or Tongue Weight. The only way to be sure it is not exceeding any of these ratings is to weigh the vehicle and trailer.

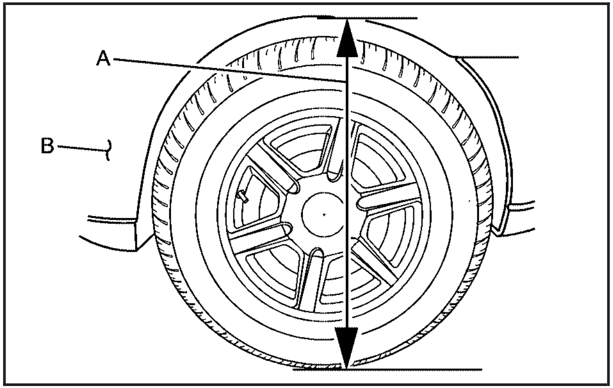
## Total Weight on the Vehicle's Tires

Be sure the vehicle's tires are inflated to the upper limit for cold tires. These numbers can be found on the Certification/Tire Label located on the B-pillar below the door latch or see *Loading the Vehicle on page 4-33* for more information. Make sure not to go over the GVW limit for the vehicle, or the GAWR, including the weight of the trailer tongue. If using a weight distributing hitch, make sure not to go over the rear axle limit before applying the weight distribution spring bars.

## Hitches

It is important to have the correct hitch equipment. Crosswinds, large trucks going by and rough roads are a few reasons why the right hitch is needed.

## Weight Distributing Hitches and Weight Carrying Hitches




**(A) Body to Ground Distance, (B) Front of Vehicle**

When using a weight-distributing hitch, the hitch must be adjusted so that the distance (A) remains the same both before and after coupling the trailer to the tow vehicle.

If a step-bumper hitch is used, the bumper could be damaged in sharp turns. Make sure there is ample room when turning to avoid contact between the trailer and the bumper.

If pulling a trailer that, when loaded, will weigh more than 4,000 lbs (1 814 kg) be sure to use a properly mounted weight-distributing hitch and sway control of the proper size. This equipment is very important for proper vehicle loading and good handling when driving. Always use a sway control if the trailer will weigh more than these limits. Ask a hitch dealer about sway controls.

## Safety Chains

Always attach chains between the vehicle and the trailer. Cross the safety chains under the tongue of the trailer to help prevent the tongue from contacting the road if it becomes separated from the hitch. Always leave just enough slack so the rig can turn. Never allow safety chains to drag on the ground.

## Trailer Brakes

A loaded trailer that weighs more than 1,500 lbs (680 kg) needs to have its own brake system that is adequate for the weight of the trailer. Be sure to read and follow the instructions for the trailer brakes so they are installed, adjusted and maintained properly.

Since the vehicle is equipped with StabiliTrak®, the trailer brakes cannot tap into the vehicle's hydraulic brake system.

## Driving with a Trailer

> **⚠ CAUTION:**
>
> When towing a trailer, exhaust gases may collect at the rear of the vehicle and enter if the liftgate, trunk/hatch, or rear-most window is open.
>
> Engine exhaust contains carbon monoxide (CO) which cannot be seen or smelled. It can cause unconsciousness and even death.
>
> To maximize safety when towing a trailer:
>
> - Have the exhaust system inspected for leaks and make necessary repairs before starting a trip.
> - Never drive with the liftgate, trunk/hatch, or rear-most window open.
> - Fully open the air outlets on or under the instrument panel.
> - Adjust the Climate Control system to a setting that brings in only outside air and set the fan speed to the highest setting. See Climate Control System in the Index.
>
> For more information about carbon monoxide, see *Engine Exhaust on page 2-38*.

Towing a trailer requires a certain amount of experience. Get to know the rig before setting out for the open road. Get acquainted with the feel of handling and braking with the added weight of the trailer. And always keep in mind that the vehicle you are driving is now longer and not as responsive as the vehicle is by itself.

Before starting, check all trailer hitch parts and attachments, safety chains, electrical connectors, lamps, tires and mirror adjustments. If the trailer has electric brakes, start the vehicle and trailer moving and then apply the trailer brake controller by hand to be sure the brakes are working. This checks the electrical connection at the same time.

During the trip, check occasionally to be sure that the load is secure, and that the lamps and any trailer brakes are still working.

### Following Distance

Stay at least twice as far behind the vehicle ahead as you would when driving the vehicle without a trailer. This can help to avoid situations that require heavy braking and sudden turns.

### Passing

More passing distance is needed when towing a trailer. Because the rig is longer, it is necessary to go much farther beyond the passed vehicle before returning to the lane.

## Backing Up

Hold the bottom of the steering wheel with one hand. Then, to move the trailer to the left, move that hand to the left. To move the trailer to the right, move your hand to the right. Always back up slowly and, if possible, have someone guide you.

## Making Turns

***Notice:*** **Making very sharp turns while trailering could cause the trailer to come in contact with the vehicle. The vehicle could be damaged. Avoid making very sharp turns while trailering.**

When turning with a trailer, make wider turns than normal. Do this so the trailer will not strike soft shoulders, curbs, road signs, trees or other objects. Avoid jerky or sudden maneuvers. Signal well in advance.

## Turn Signals When Towing a Trailer

The arrows on the instrument panel flash whenever signaling a turn or lane change. Properly hooked up, the trailer lamps also flash, telling other drivers the vehicle is turning, changing lanes or stopping.

When towing a trailer, the arrows on the instrument panel flash for turns even if the bulbs on the trailer are burned out. For this reason you may think other drivers are seeing the signal when they are not. It is important to check occasionally to be sure the trailer bulbs are still working.

## Driving On Grades

Reduce speed and shift to a lower gear *before* starting down a long or steep downgrade. If the transmission is not shifted down, the brakes might have to be used so much that they would get hot and no longer work well.

Vehicles can tow in D (Drive). Shift the transmission to a lower gear if the transmission shifts too often under heavy loads and/or hilly conditions.

When towing at high altitude on steep uphill grades, consider the following: Engine coolant will boil at a lower temperature than at normal altitudes. If the engine is turned off immediately after towing at high altitude on steep uphill grades, the vehicle may show signs similar to engine overheating. To avoid this, let the engine run while parked, preferably on level ground, with the transmission in P (Park) for a few minutes before turning the engine off. If the overheat warning comes on, see *Engine Overheating on page 5-35*.

## Parking on Hills

**⚠ CAUTION:**

Parking the vehicle on a hill with the trailer attached can be dangerous. If something goes wrong, the rig could start to move. People can be injured, and both the vehicle and the trailer can be damaged. When possible, always park the rig on a flat surface.

If parking the rig on a hill:

1. Press the brake pedal, but do not shift into P (Park) yet. Turn the wheels into the curb if facing downhill or into traffic if facing uphill.
2. Have someone place chocks under the trailer wheels.
3. When the wheel chocks are in place, release the brake pedal until the chocks absorb the load.
4. Reapply the brake pedal. Then apply the parking brake and shift into P (Park).
5. Release the brake pedal.

**⚠ CAUTION:**

It can be dangerous to get out of the vehicle if the shift lever is not fully in P (Park) with the parking brake firmly set. The vehicle can roll.

If the engine has been left running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when on fairly level ground, use the steps that follow.

Always put the shift lever fully in P (Park) with the parking brake firmly set.

If the transfer case on four-wheel drive vehicles is in N (Neutral), the vehicle will be free to roll, even if the shift lever is in P (Park). Be sure the transfer case is in a drive gear — not in N (Neutral).

See *Four-Wheel Drive on page 2-30*.

## Leaving After Parking on a Hill

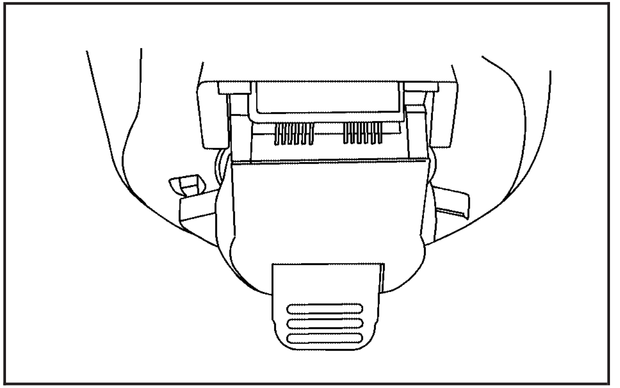
1. Apply and hold the brake pedal while you:
   - start the engine,
   - shift into a gear, and
   - release the parking brake.
2. Let up on the brake pedal.
3. Drive slowly until the trailer is clear of the chocks.
4. Stop and have someone pick up and store the chocks.

## Maintenance When Trailer Towing

The vehicle needs service more often when pulling a trailer. See this manual's Maintenance Schedule or Index for more information. Things that are especially important in trailer operation are automatic transmission fluid, engine oil, axle lubricant, belts, cooling system and brake system. It is a good idea to inspect these before and during the trip.

Check periodically to see that all hitch nuts and bolts are tight.

## Trailer Wiring Harness



The vehicle may have a seven-wire trailer towing harness. This harness may have a seven-pin universal heavy-duty trailer connector (if equipped with the trailering package) that is attached to a bracket on the hitch platform or included with the four-pin trailer towing harness. If the vehicle is not equipped with the heavy-duty trailer connector, one may be purchased from your dealer/retailer.

The seven-wire harness contains the following trailer circuits:

- Yellow: Left Stop/Turn Signal
- Dark Green: Right Stop/Turn Signal
- Brown: Running Lamps
- White: Ground
- Light Green: Back-up Lamps
- Dark Blue: Electric Brakes
- Red: Battery Feed (The chassis wiring ring terminal must be fastened to a stud on the underhood electrical center before the trailer feed will become active.)

If towing a light-duty trailer with a standard four-way round pin connector, an adapter connector is available from your dealer/retailer.

If charging a remote (non-vehicle) battery, turn on the headlamps to boost the vehicle system voltage and properly charge the battery.

The vehicle is also equipped with wiring for an electric trailer brake controller. These wires are located inside the vehicle on the driver side under the instrument panel. These wires should be connected to an electric trailer brake controller by your dealer/retailer or a qualified service center.

The vehicle may be equipped with a four-pin trailer towing harness. This harness has a four-pin trailer connector that contains the following trailer circuits:

- Yellow: Left Stop/Turn Signal
- Dark Green: Right Stop/Turn Signal
- Brown: Running Lamps
- White: Ground

This harness also contains the following trailer circuits that are not connected to the four-pin trailer connector:

- Light Green: Back-Up Lamps
- Dark Blue: Electric Brakes
- Red: Battery Feed

If the vehicle is a TrailBlazer SS, a trailer wiring harness extension, and instructions for installing this extension, were provided when the vehicle was delivered. This extension will allow the vehicle's trailer wiring harness to be more easily accessible. There is a four-way connector on the harness. A seven-way adapter plug is also included if the trailer requires it.

## ✍ NOTES

# Section 5 Service and Appearance Care

# Section 5 Service and Appearance Care

# Service

For service and parts needs, visit your dealer/retailer. You will receive genuine GM parts and GM-trained and supported service people.

Genuine GM parts have one of these marks:

ACDelco®

GM® Parts

GM® | Goodwrench®

GM® Accessories

# Accessories and Modifications

When non-dealer/non-retailer accessories are added to the vehicle, they can affect vehicle performance and safety, including such things as airbags, braking, stability, ride and handling, emissions systems, aerodynamics, durability, and electronic systems like antilock brakes, traction control, and stability control. Some of these accessories could even cause malfunction or damage not covered by the vehicle warranty.

GM Accessories are designed to complement and function with other systems on the vehicle. Your GM dealer/retailer can accessorize the vehicle using genuine GM Accessories. When you go to your GM dealer/retailer and ask for GM Accessories, you will know that GM-trained and supported service technicians will perform the work using genuine GM Accessories.

Also, see *Adding Equipment to Your Airbag-Equipped Vehicle on page 1-68*.

## California Proposition 65 Warning

Most motor vehicles, including this one, contain and/or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Engine exhaust, many parts and systems (including some inside the vehicle), many fluids, and some component wear by-products contain and/or emit these chemicals.

## California Perchlorate Materials Requirements

Certain types of automotive applications, such as airbag initiators, seat belt pretensioners, and lithium batteries contained in remote keyless transmitters, may contain perchlorate materials. Special handling may be necessary. For additional information, see www.dtsc.ca.gov/hazardouswaste/perchlorate.

## Doing Your Own Service Work

**⚠ CAUTION:**

You can be injured and the vehicle could be damaged if you try to do service work on a vehicle without knowing enough about it.

- Be sure you have sufficient knowledge, experience, the proper replacement parts, and tools before attempting any vehicle maintenance task.
- Be sure to use the proper nuts, bolts, and other fasteners. English and metric fasteners can be easily confused. If the wrong fasteners are used, parts can later break or fall off. You could be hurt.

If doing some of your own service work, use the proper service manual. It tells you much more about how to service the vehicle than this manual can. To order the proper service manual, see *Service Publications Ordering Information on page 7-16*.

This vehicle has an airbag system. Before attempting to do your own service work, see *Servicing Your Airbag-Equipped Vehicle on page 1-68*.

Keep a record with all parts receipts and list the mileage and the date of any service work performed. See *Maintenance Record on page 6-16*.

## Adding Equipment to the Outside of the Vehicle

Things added to the outside of the vehicle can affect the airflow around it. This can cause wind noise and can affect fuel economy and windshield washer performance. Check with your dealer/retailer before adding equipment to the outside of the vehicle.

# Fuel

Use of the recommended fuel is an important part of the proper maintenance of this vehicle. To help keep the engine clean and maintain optimum vehicle performance, we recommend the use of gasoline advertised as TOP TIER Detergent Gasoline.

The 8th digit of the Vehicle Identification Number (VIN) shows the code letter or number that identifies the vehicle's engine. The VIN is at the top left of the instrument panel. See *Vehicle Identification Number (VIN) on page 5-117*.

## Gasoline Octane

If the vehicle has the 4.2L L6 engine (VIN Code S) or the 5.3L V8 engine (VIN Code M), use regular unleaded gasoline with a posted octane rating of 87 or higher. If the octane rating is less than 87, you might notice an audible knocking noise when you drive, commonly referred to as spark knock. If this occurs, use a gasoline rated at 87 octane or higher as soon as possible. If you are using gasoline rated at 87 octane or higher and you hear heavy knocking, the engine needs service.

If the vehicle has the 6.0L V8 engine (VIN Code H), use premium unleaded gasoline with a posted octane rating of 91 or higher. You can also use regular unleaded gasoline rated at 87 octane or higher, but the vehicle's acceleration could be slightly reduced, and you might notice a slight audible knocking noise, commonly referred to as spark knock. If the octane is less than 87, you might notice a heavy knocking noise when you drive. If this occurs, use a gasoline rated at 87 octane or higher as soon as possible. Otherwise, you could damage the engine. If you are using gasoline rated at 87 octane or higher and you hear heavy knocking, the engine needs service.

## Gasoline Specifications

At a minimum, gasoline should meet ASTM specification D 4814 in the United States or CAN/CGSB-3.5 or 3.511 in Canada. Some gasolines contain an octane-enhancing additive called methylcyclopentadienyl manganese tricarbonyl (MMT). We recommend against the use of gasolines containing MMT. See *Additives on page 5-7* for additional information.

## California Fuel

If the vehicle is certified to meet California Emissions Standards, it is designed to operate on fuels that meet California specifications. See the underhood emission control label. If this fuel is not available in states adopting California emissions standards, the vehicle will operate satisfactorily on fuels meeting federal specifications, but emission control system performance might be affected. The malfunction indicator lamp could turn on and the vehicle might fail a smog-check test. See *Malfunction Indicator Lamp on page 3-39*. If this occurs, return to your authorized dealer/retailer for diagnosis. If it is determined that the condition is caused by the type of fuel used, repairs might not be covered by the vehicle warranty.

## Additives

To provide cleaner air, all gasolines in the United States are now required to contain additives that help prevent engine and fuel system deposits from forming, allowing the emission control system to work properly. In most cases, you should not have to add anything to the fuel. However, some gasolines contain only the minimum amount of additive required to meet U.S. Environmental Protection Agency regulations. To help keep fuel injectors and intake valves clean, or if the vehicle experiences problems due to dirty injectors or valves, look for gasoline that is advertised as TOP TIER Detergent Gasoline. Also, your dealer/retailer has additives that will help correct and prevent most deposit-related problems.

Gasolines containing oxygenates, such as ethers and ethanol, and reformulated gasolines might be available in your area. We recommend that you use these gasolines, if they comply with the specifications described earlier. However, E85 (85% ethanol) and other fuels containing more than 10% ethanol must not be used in vehicles that were not designed for those fuels.

***Notice:*** **This vehicle was not designed for fuel that contains methanol. Do not use fuel containing methanol. It can corrode metal parts in the fuel system and also damage plastic and rubber parts. That damage would not be covered under the vehicle warranty.**

Some gasolines that are not reformulated for low emissions can contain an octane-enhancing additive called methylcyclopentadienyl manganese tricarbonyl (MMT); ask the attendant where you buy gasoline whether the fuel contains MMT. We recommend against the use of such gasolines. Fuels containing MMT can reduce the life of spark plugs and the performance of the emission control system could be affected. The malfunction indicator lamp might turn on. If this occurs, return to your dealer/retailer for service.

## Fuels in Foreign Countries

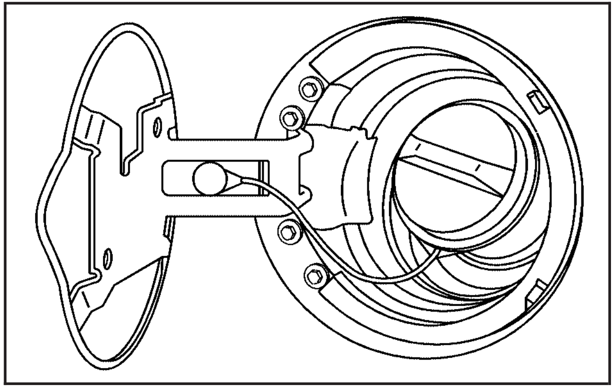
If you plan on driving in another country outside the United States or Canada, the proper fuel might be hard to find. Never use leaded gasoline or any other fuel not recommended in the previous text on fuel. Costly repairs caused by use of improper fuel would not be covered by the vehicle warranty.

To check the fuel availability, ask an auto club, or contact a major oil company that does business in the country where you will be driving.

## Filling the Tank

**⚠ CAUTION:**

Fuel vapor burns violently and a fuel fire can cause bad injuries. To help avoid injuries to you and others, read and follow all the instructions on the pump island. Turn off the engine when you are refueling. Do not smoke if you are near fuel or refueling the vehicle. Do not use cellular phones. Keep sparks, flames, and smoking materials away from fuel. Do not leave the fuel pump unattended when refueling the vehicle. This is against the law in some places. Do not re-enter the vehicle while pumping fuel. Keep children away from the fuel pump; never let children pump fuel.



The tethered fuel cap is located behind a hinged fuel door on the driver side of the vehicle.

To remove the fuel cap, turn it slowly counterclockwise.

While refueling, hang the tethered fuel cap from the hook on the fuel door.

**⚠ CAUTION:**

Fuel can spray out on you if you open the fuel cap too quickly. If you spill fuel and then something ignites it, you could be badly burned. This spray can happen if the tank is nearly full, and is more likely in hot weather. Open the fuel cap slowly and wait for any hiss noise to stop. Then unscrew the cap all the way.

Be careful not to spill fuel. Do not top off or overfill the tank and wait a few seconds after you have finished pumping before removing the nozzle. Clean fuel from painted surfaces as soon as possible. See *Washing Your Vehicle on page 5-113*.

When replacing the fuel cap, turn it clockwise until it clicks. Make sure the cap is fully installed. The diagnostic system can determine if the fuel cap has been left off or improperly installed. This would allow fuel to evaporate into the atmosphere. See *Malfunction Indicator Lamp on page 3-39*.

There may also be a light that comes on in the instrument panel to let you know if the gas cap is not properly installed. See *Check Gas Cap Light on page 3-47* for more information.

**⚠ CAUTION:**

If a fire starts while you are refueling, do not remove the nozzle. Shut off the flow of fuel by shutting off the pump or by notifying the station attendant. Leave the area immediately.

***Notice:*** **If you need a new fuel cap, be sure to get the right type. Your dealer/retailer can get one for you. If you get the wrong type, it may not fit properly. This may cause the malfunction indicator lamp to light and may damage the fuel tank and emissions system. See *Malfunction Indicator Lamp on page 3-39*.**

## Filling a Portable Fuel Container

**⚠ CAUTION:**

Never fill a portable fuel container while it is in the vehicle. Static electricity discharge from the container can ignite the fuel vapor. You can be badly burned and the vehicle damaged if this occurs. To help avoid injury to you and others:

- Dispense fuel only into approved containers.
- Do not fill a container while it is inside a vehicle, in a vehicle's trunk, pickup bed, or on any surface other than the ground.
- Bring the fill nozzle in contact with the inside of the fill opening before operating the nozzle. Contact should be maintained until the filling is complete.
- Do not smoke while pumping fuel.
- Do not use a cellular phone while pumping fuel.

# Checking Things Under the Hood

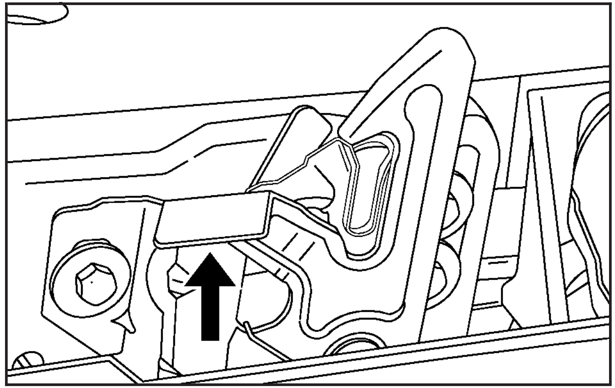
**⚠ CAUTION:**

Things that burn can get on hot engine parts and start a fire. These include liquids like fuel, oil, coolant, brake fluid, windshield washer and other fluids, and plastic or rubber. You or others could be burned. Be careful not to drop or spill things that will burn onto a hot engine.

## Hood Release

To open the hood:

1. Pull the handle with this symbol on it. It is located inside the vehicle under the instrument panel on the driver side.

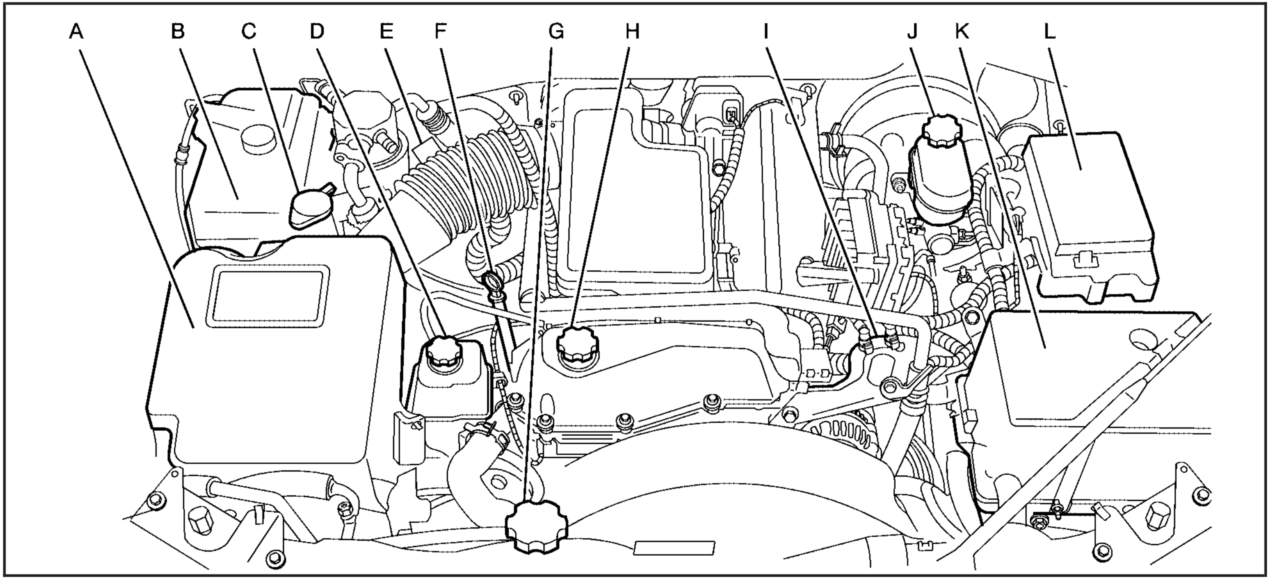


2. Then go to the front of the vehicle and release the secondary hood release.
3. Lift the hood, release the prop rod from its retainer, and put the prop rod into the slot in the hood.

Before closing the hood, be sure all the filler caps are on properly. Then lift the hood to relieve pressure on the prop rod. Remove the prop rod from its slot in the hood and return the prop to its retainer. Lower the hood 6 to 8 inches (15 to 20 cm) above the vehicle and release it to latch fully. Check to make sure the hood is closed and repeat the process if necessary.

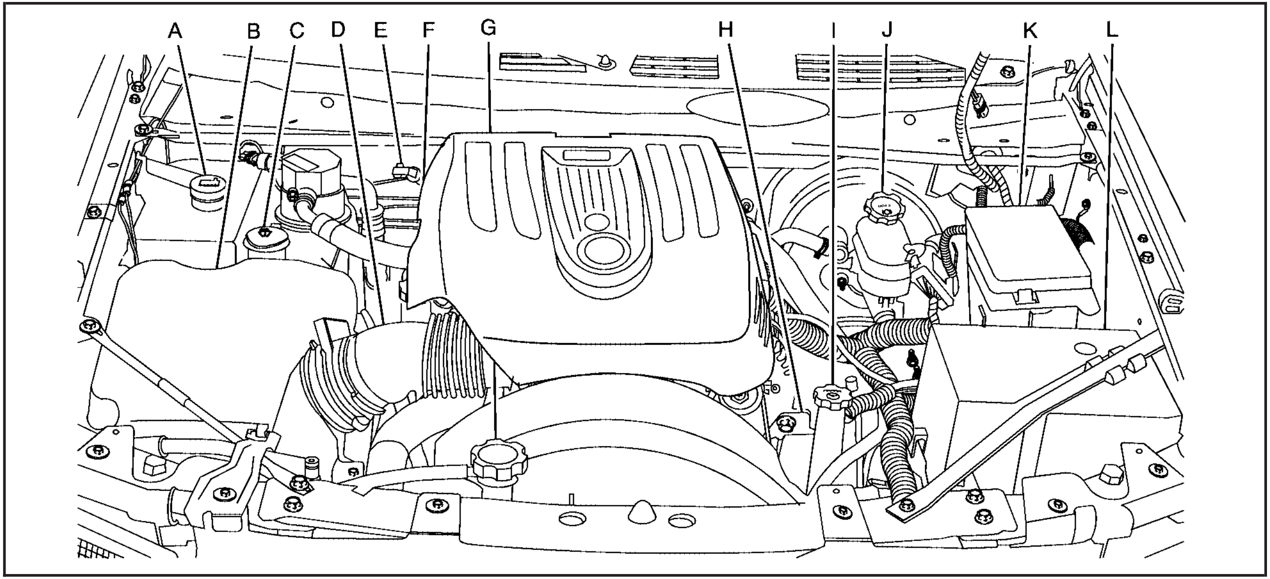
# Engine Compartment Overview

When you open the hood on the 4.2L L6 engine, here is what you will see:



A. Engine Air Cleaner/Filter. See *Engine Air Cleaner/Filter on page 5-24*.
B. Engine Coolant Recovery Tank. See *Cooling System on page 5-28*.
C. Windshield Washer Fluid Reservoir. See “Adding Washer Fluid” under *Windshield Washer Fluid on page 5-38*.
D. Power Steering Fluid Reservoir. See *Power Steering Fluid on page 5-37*.
E. Automatic Transmission Fluid Dipstick (Out of View). See “Checking the Fluid Level” under *Automatic Transmission Fluid on page 5-25*.
F. Engine Oil Dipstick. See “Checking Engine Oil” under *Engine Oil on page 5-18*.
G. Radiator Pressure Cap. See *Radiator Pressure Cap on page 5-34*.
H. Engine Oil Fill Cap. See “When to Add Engine Oil” under *Engine Oil on page 5-18*.
I. Remote Negative (–) Terminal (Marked GND). See *Jump Starting on page 5-43*.
J. Brake Master Cylinder Reservoir. See “Brake Fluid” under *Brakes on page 5-39*.
K. Battery. See *Battery on page 5-42*.
L. Engine Compartment Fuse Block. See *Engine Compartment Fuse Block on page 5-119*.

When you open the hood on the 5.3L V8 engine, here is what you will see:



A. Engine Coolant Recovery Tank. See *Cooling System on page 5-28*.

B. Engine Air Cleaner/Filter. See *Engine Air Cleaner/Filter on page 5-24*.

C. Windshield Washer Fluid Reservoir. See “Adding Washer Fluid” under *Windshield Washer Fluid on page 5-38*.

D. Engine Oil Fill Cap. See “When to Add Engine Oil” under *Engine Oil on page 5-18*.

E. Automatic Transmission Fluid Dipstick. See “Checking the Fluid Level” under *Automatic Transmission Fluid on page 5-25*.

F. Engine Oil Dipstick. See “Checking Engine Oil” under *Engine Oil on page 5-18*.

G. Radiator Pressure Cap. See *Radiator Pressure Cap on page 5-34*.

H. Remote Negative (–) Terminal (Marked GND). See *Jump Starting on page 5-43*.

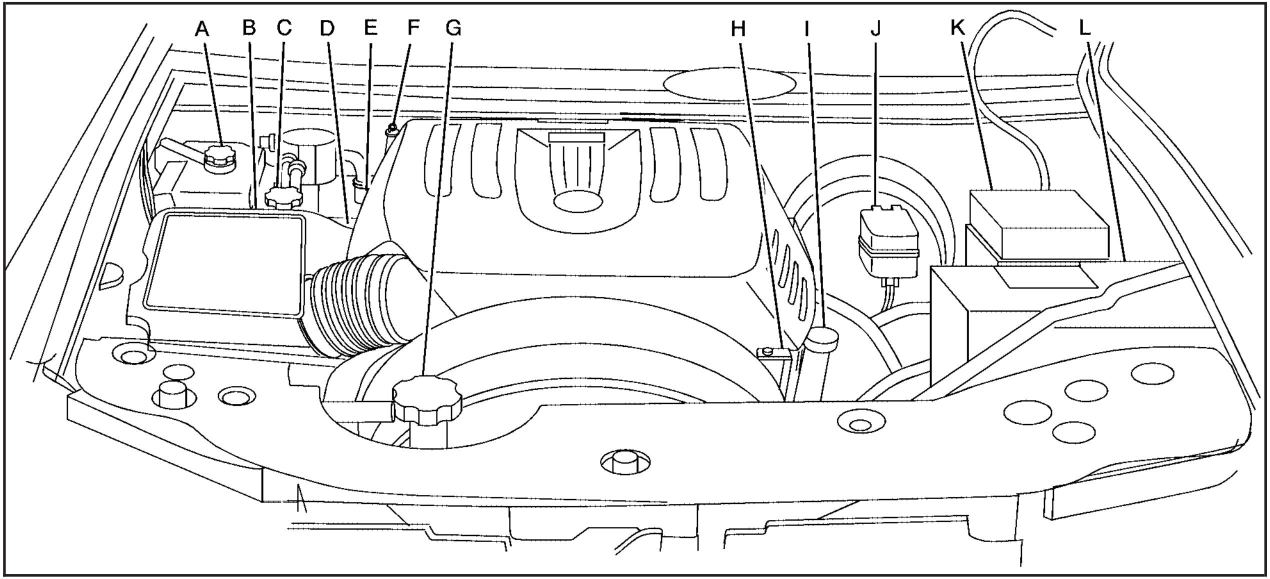
I. Power Steering Fluid Reservoir. See *Power Steering Fluid on page 5-37*.

J. Brake Master Cylinder Reservoir. See “Brake Fluid” under *Brakes on page 5-39*.

K. Engine Compartment Fuse Block. See *Engine Compartment Fuse Block on page 5-119*.

L. Battery. See *Battery on page 5-42*.

When you open the hood on the 6.0L V8 TrailBlazer SS engine, here is what you will see:



A. Engine Coolant Recovery Tank. See *Cooling System on page 5-28*.

B. Engine Air Cleaner/Filter. See *Engine Air Cleaner/Filter on page 5-24*.

C. Windshield Washer Fluid Reservoir. See "Adding Washer Fluid" under *Windshield Washer Fluid on page 5-38*.

D. Engine Oil Fill Cap (Under Engine Cover). See "When to Add Engine Oil" under *Engine Oil on page 5-18*.

E. Engine Oil Dipstick (Out of View). See "Checking Engine Oil" under *Engine Oil on page 5-18*.

F. Automatic Transmission Fluid Dipstick. See "Checking the Fluid Level" under *Automatic Transmission Fluid on page 5-25*.

G. Radiator Pressure Cap. See *Radiator Pressure Cap on page 5-34*.

H. Remote Negative (–) Terminal (Marked GND). See *Jump Starting on page 5-43*.

I. Power Steering Fluid Reservoir. See *Power Steering Fluid on page 5-37*.

J. Brake Master Cylinder Reservoir. See "Brake Fluid" under *Brakes on page 5-39*.

K. Engine Compartment Fuse Block. See *Engine Compartment Fuse Block on page 5-119*.

L. Battery. See *Battery on page 5-42*.

# Engine Oil

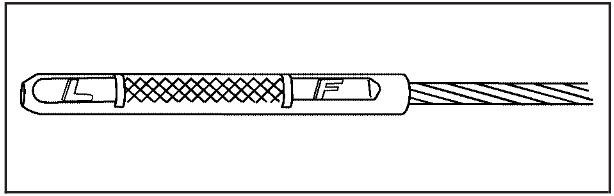
## Checking Engine Oil

It is a good idea to check the engine oil every time you get fuel. In order to get an accurate reading, the oil must be warm and the vehicle must be on level ground.

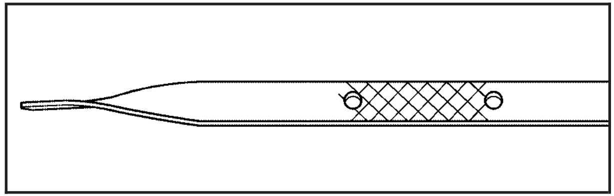
The engine oil dipstick handle is a yellow loop. See *Engine Compartment Overview on page 5-12* for the location of the engine oil dipstick.

1. Turn off the engine and give the oil several minutes to drain back into the oil pan. If you do not do this, the oil dipstick might not show the actual level.
2. Pull out the dipstick and clean it with a paper towel or cloth, then push it back in all the way. Remove it again, keeping the tip down, and check the level.

## When to Add Engine Oil



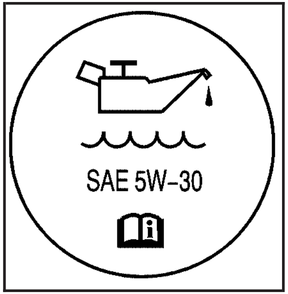

**L6 Engine**



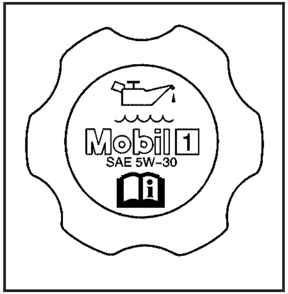
**V8 Engine**

If the oil is below the L mark for the L6 engine or the cross-hatched area at the tip of the dipstick for the V8 engine, add at least one quart/liter of the recommended oil. This section explains what kind of oil to use. For engine oil crankcase capacity, see *Capacities and Specifications on page 5-125*.

**Notice:** Do not add too much oil. If the engine has so much oil that the oil level gets above the cross-hatched area (F) that shows the proper operating range for the L6 engine or above the cross-hatched area for the V8 engine, the engine could be damaged.




**Except 6.0L V8 (VIN Code H) Engine**




**6.0L V8 (VIN Code H) Engine**

See *Engine Compartment Overview on page 5-12* for the location of the engine oil fill cap.

Add enough oil to put the level somewhere in the proper operating range. Push the dipstick all the way back in when you are through.

## 6.0L V8 (VIN Code H) Engine Only

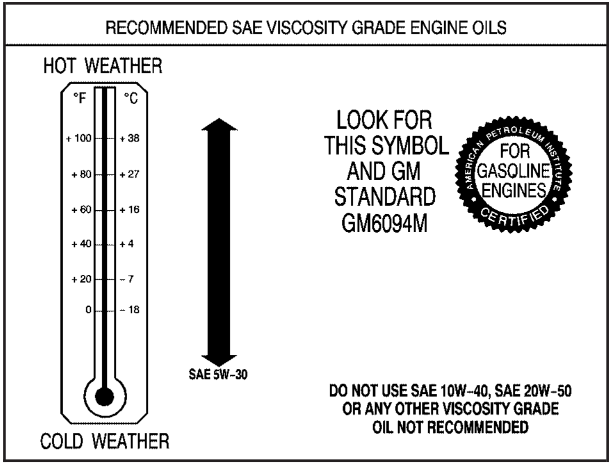
Remove the engine cover to access the engine oil fill cap:

1. Remove the screw in the center of the cover.
2. Remove the cover from the stud on the driver side.
3. Pull the cover up and off the bracket.
4. Reverse the steps to reinstall.

# What Kind of Engine Oil to Use

## Except Vehicles with 6.0L V8 (VIN Code H) Engine

Look for three things:




- GM6094M

  Use only an oil that meets GM Standard GM6094M.

- SAE 5W-30

  SAE 5W-30 is best for the vehicle. These numbers on an oil container show its viscosity, or thickness. Do not use other viscosity oils such as SAE 20W-50.

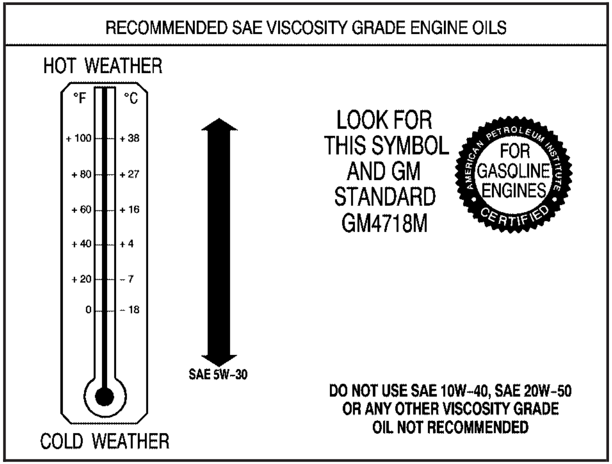
- American Petroleum Institute (API) starburst symbol

Oils meeting these requirements should have the starburst symbol on the container. This symbol indicates that the oil has been certified by the American Petroleum Institute (API).

***Notice:*** **Use only engine oil identified as meeting GM Standard GM6094M and showing the American Petroleum Institute Certified For Gasoline Engines starburst symbol. Failure to use the recommended oil can result in engine damage not covered by the vehicle warranty.**

## For 6.0L V8 (VIN Code H) Engine Vehicles Only

Look for three things:




- GM4718M

  This vehicle's engine requires a special oil meeting GM Standard GM4718M. Oils meeting this standard may be identified as synthetic. However, not all synthetic oils will meet this GM standard. Use only an oil that meets GM Standard GM4718M.

***Notice:*** **Using oils that do not have the GM4718M Standard designation can cause engine damage not covered by the vehicle warranty.**

- SAE 5W-30

  SAE 5W-30 is best for the vehicle. These numbers on an oil container show its viscosity, or thickness. Do not use other viscosity oils such as SAE 20W-50.

- American Petroleum Institute (API) starburst symbol

Oils meeting these requirements should have the starburst symbol on the container. This symbol indicates that the oil has been certified by the American Petroleum Institute (API).

This vehicle's engine was filled at the factory with a Mobil 1® synthetic oil meeting all requirements for this vehicle.

Substitute Engine Oil: When adding oil to maintain engine oil level, oil meeting GM Standard GM4718M might not be available. You can add substitute oil designated SAE 5W-30 with the starburst symbol at all temperatures. Substitute oil not meeting GM Standard GM4718M should not be used for an oil change.

## Cold Temperature Operation

### Except Vehicles with 6.0L V8 (VIN Code H) Engine

If in an area of extreme cold, where the temperature falls below –20°F (–29°C), use either an SAE 5W-30 synthetic oil or an SAE 0W-30 engine oil. Both provide easier cold starting for the engine at extremely low temperatures. Always use an oil that meets the required specification, GM6094M. See “What Kind of Engine Oil to Use” for more information.

## Engine Oil Additives / Engine Oil Flushes

Do not add anything to the oil. The recommended oils with the starburst symbol that meet GM standards are all that is needed for good performance and engine protection.

Engine oil system flushes are not recommended and could cause engine damage not covered by the vehicle warranty.

# Engine Oil Life System

## When to Change Engine Oil

This vehicle has a computer system that indicates when to change the engine oil and filter. This is based on engine revolutions and engine temperature, and not on mileage. Based on driving conditions, the mileage at which an oil change is indicated can vary considerably. For the oil life system to work properly, the system must be reset every time the oil is changed.

When the system has calculated that oil life has been diminished, it indicates that an oil change is necessary. A change engine oil light comes on, and, if the vehicle has a Driver Information Center (DIC), a CHANGE ENGINE OIL message comes on. See *Change Engine Oil Light on page 3-43* and *DIC Warnings and Messages on page 3-51*. Change the oil as soon as possible within the next 600 miles (1 000 km). It is possible that, if driving under the best conditions, the oil life system might not indicate that an oil change is necessary for over a year. However, the engine oil and filter must be changed at least once a year and at this time the system must be reset. Your dealer/retailer has trained people who will perform this work using genuine parts and reset the system. It is also important to check the oil regularly and keep it at the proper level.

If the system is ever reset accidentally, the oil must be changed at 3,000 miles (5 000 km) since the last oil change. Remember to reset the oil life system whenever the oil is changed.

## How to Reset the Engine Oil Life System

The Engine Oil Life System calculates when to change the engine oil and filter based on vehicle use. Whenever the oil is changed, reset the system so it can calculate when the next oil change is required. If a situation occurs where the oil is changed prior to a change engine oil light or CHANGE ENGINE OIL message being turned on, reset the system.

To reset the Engine Oil Life System:

1. Turn the ignition key to ON/RUN with the engine off.
2. Fully press and release the accelerator pedal slowly three times within five seconds.

   The change engine oil light will flash while the system is resetting.
3. When the light stops flashing, turn the key to LOCK/OFF.

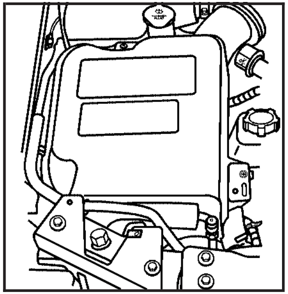
If the light/message comes back on when the vehicle is started, the engine oil life system has not reset. Repeat the procedure.

## What to Do with Used Oil

Used engine oil contains certain elements that can be unhealthy for your skin and could even cause cancer. Do not let used oil stay on your skin for very long. Clean your skin and nails with soap and water, or a good hand cleaner. Wash or properly dispose of clothing or rags containing used engine oil. See the manufacturer's warnings about the use and disposal of oil products.

Used oil can be a threat to the environment. If you change your own oil, be sure to drain all the oil from the filter before disposal. Never dispose of oil by putting it in the trash, pouring it on the ground, into sewers, or into streams or bodies of water. Recycle it by taking it to a place that collects used oil.

# Engine Air Cleaner/Filter



**4.2L L6 Engine shown, 5.3L and 6.0L V8 Engines similar**

See *Engine Compartment Overview on page 5-12* for the location of the engine air cleaner/filter.

## When to Inspect the Engine Air Cleaner/Filter

Inspect the air cleaner/filter at the Maintenance II intervals and replace at the first oil change after each 50,000 mile (80 000 km) interval. See *Scheduled Maintenance on page 6-4* for more information. If you are driving in dusty/dirty conditions, inspect the filter at each engine oil change.

## How to Inspect the Engine Air Cleaner/Filter

To inspect the air cleaner/filter remove the filter from the vehicle and lightly shake the filter to release loose dust and dirt. If the filter remains caked with dirt, a new filter is required.

To inspect or replace the engine air cleaner/filter, do the following:

1. Remove the screws on the engine air cleaner/filter and lift off the cover.
2. Remove the air cleaner/filter from the housing. Care should be taken to dislodge as little dirt as possible.
3. Inspect or replace the engine air cleaner/filter.
4. Reinstall the cover and tighten the screws.

## ⚠ CAUTION:

Operating the engine with the air cleaner/filter off can cause you or others to be burned. The air cleaner not only cleans the air; it helps to stop flames if the engine backfires. If it is not there and the engine backfires, you could be burned. Do not drive with it off, and be careful working on the engine with the air cleaner/filter off.

***Notice:*** **If the air cleaner/filter is off, a backfire can cause a damaging engine fire. And, dirt can easily get into the engine, which will damage it. Always have the air cleaner/filter in place when you are driving.**

# Automatic Transmission Fluid

## When to Check and Change Automatic Transmission Fluid

A good time to check the automatic transmission fluid level is when the engine oil is changed.

Change the fluid and filter at the intervals listed in *Additional Required Services on page 6-6*, and be sure to use the transmission fluid listed in *Recommended Fluids and Lubricants on page 6-12*.

## How to Check Automatic Transmission Fluid

Because this operation can be a little difficult, you may choose to have this done at the dealer/retailer service department.

If you do it yourself, be sure to follow all the instructions here, or you could get a false reading on the dipstick.

***Notice:*** **Too much or too little fluid can damage your transmission. Too much can mean that some of the fluid could come out and fall on hot engine parts or exhaust system parts, starting a fire. Too little fluid could cause the transmission to overheat. Be sure to get an accurate reading if you check your transmission fluid.**

Wait at least 30 minutes before checking the transmission fluid level if you have been driving:

- When outside temperatures are above 90°F (32°C).
- At high speed for quite a while.
- In heavy traffic — especially in hot weather.
- While pulling a trailer.

To get the right reading, the fluid should be at normal operating temperature, which is 180°F to 200°F (82°C to 93°C).

Get the vehicle warmed up by driving about 15 miles (24 km) when outside temperatures are above 50°F (10°C). If it is colder than 50°F (10°C), drive the vehicle in 3 (Third) until the engine temperature gage moves and then remains steady for 10 minutes.

A cold fluid check can be made after the vehicle has been sitting for eight hours or more with the engine off, but this is used only as a reference. Let the engine run at idle for five minutes if outside temperatures are 50°F (10°C) or more. If it is colder than 50°F (10°C), you may have to idle the engine longer. Should the fluid level be low during this cold check, you must check the fluid hot before adding fluid. Checking the fluid hot will give a more accurate reading of the fluid level.

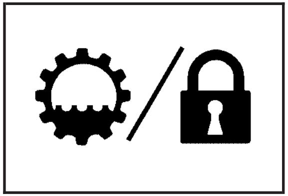
## Checking the Fluid Level

Prepare the vehicle as follows:

1. Park the vehicle on a level place. Keep the engine running.
2. With the parking brake applied, place the shift lever in P (Park).
3. With your foot on the brake pedal, move the shift lever through each gear range, pausing for about three seconds in each range. Then, position the shift lever in P (Park).
4. Let the engine run at idle for three minutes or more.

Then, without shutting off the engine, follow these steps:

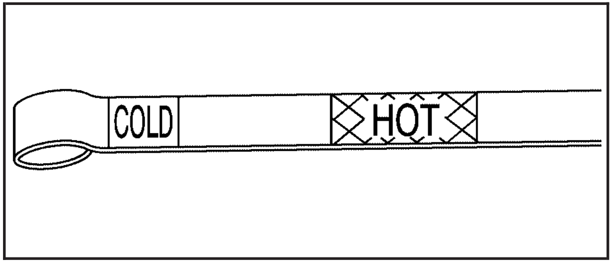
1. Flip the handle up and then remove the dipstick and wipe it with a clean rag or paper towel.



The automatic transmission dipstick handle with this symbol on it is located in the engine compartment on the passenger side of the vehicle.

See *Engine Compartment Overview on page 5-12* for more information on location.

2. Reinstall it back in all the way, wait three seconds and then pull it back out again. If the dipstick does not go down the tube easily, turn the blade and try again until it is fully inserted in the tube.




3. Check both sides of the dipstick and read the lower level. The fluid level must be in the COLD area, below the cross-hatched area, for a cold check or in the HOT or cross-hatched area for a hot check. Be sure to keep the dipstick pointed down to get an accurate reading.
4. If the fluid level is in the acceptable range, reinstall the dipstick back in all the way; then flip the handle down to lock the dipstick in place.

## Consistency of Readings

Always check the fluid level at least twice using the procedure described previously. Consistency (repeatable readings) is important to maintaining proper fluid level. If inconsistent readings persist, contact your dealer/retailer.

## How to Add Automatic Transmission Fluid

Refer to the Maintenance Schedule to determine what kind of transmission fluid to use. See *Recommended Fluids and Lubricants on page 6-12*.

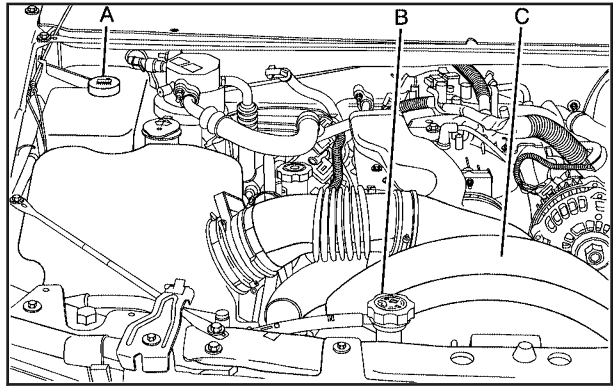
Add fluid only after checking the transmission fluid while it is hot. A cold check is used only as a reference. If the fluid level is low, add only enough of the proper fluid to bring the level up to the HOT area for a hot check. It does not take much fluid, generally less than one pint (0.5 L). Do not overfill.

***Notice:*** **Use of the incorrect automatic transmission fluid may damage the vehicle, and the damages may not be covered by the vehicle's warranty. Always use the automatic transmission fluid listed in *Recommended Fluids and Lubricants on page 6-12*.**

- After adding fluid, recheck the fluid level as described under "How to Check Automatic Transmission Fluid" earlier in this section.
- When the correct fluid level is obtained, push the dipstick back in all the way; then flip the handle down to lock the dipstick in place.

# Cooling System

The cooling system allows the engine to maintain the correct working temperature.




**5.3L V8 Engine shown, 4.2L L6 and 6.0L V8 Engines similar**

A. Coolant Recovery Tank

B. Radiator Pressure Cap

C. Engine Fan

**⚠ CAUTION:**

An electric engine cooling fan under the hood can start up even when the engine is not running and can cause injury. Keep hands, clothing, and tools away from any underhood electric fan.

**⚠ CAUTION:**

Heater and radiator hoses, and other engine parts, can be very hot. Do not touch them. If you do, you can be burned.

Do not run the engine if there is a leak. If you run the engine, it could lose all coolant. That could cause an engine fire, and you could be burned. Get any leak fixed before you drive the vehicle.

***Notice:*** **Using coolant other than DEX-COOL® can cause premature engine, heater core, or radiator corrosion. In addition, the engine coolant could require changing sooner, at 30,000 miles (50 000 km) or 24 months, whichever occurs first. Any repairs would not be covered by the vehicle warranty. Always use DEX-COOL® (silicate-free) coolant in the vehicle.**

## Engine Coolant

The cooling system in the vehicle is filled with DEX-COOL®. This coolant is designed to remain in the vehicle for five years or 150,000 miles (240 000 km), whichever occurs first.

The following explains the cooling system and how to check and add coolant when it is low. If there is a problem with engine overheating, see *Engine Overheating on page 5-35*.

## What to Use

**⚠ CAUTION:**

Adding only plain water to the cooling system can be dangerous. Plain water, or some other liquid such as alcohol, can boil before the proper coolant mixture will. The vehicle's coolant warning system is set for the proper coolant mixture. With plain water or the wrong mixture, the engine could get too hot but you would not get the overheat warning. The engine could catch fire and you or others could be burned. Use a 50/50 mixture of clean, drinkable water and DEX-COOL® coolant.

Use a 50/50 mixture of clean, drinkable water and DEX-COOL coolant. If using this mixture, nothing else needs to be added. This mixture:

- Gives freezing protection down to –34°F (–37°C), outside temperature.
- Gives boiling protection up to 265°F (129°C), engine temperature.
- Protects against rust and corrosion.
- Will not damage aluminum parts.
- Helps keep the proper engine temperature.

***Notice:*** **If an improper coolant mixture is used, the engine could overheat and be badly damaged. The repair cost would not be covered by the vehicle warranty. Too much water in the mixture can freeze and crack the engine, radiator, heater core, and other parts.**

***Notice:*** **If extra inhibitors and/or additives are used in the vehicle's cooling system, the vehicle could be damaged. Use only the proper mixture of the engine coolant listed in this manual for the cooling system. See *Recommended Fluids and Lubricants on page 6-12* for more information.**

## Checking Coolant

The vehicle must be on a level surface when checking the coolant level.

Check to see if coolant is visible in the coolant recovery tank. If the coolant inside the coolant recovery tank is boiling, do not do anything else until it cools down. If coolant is visible but the coolant level is not at or above the FULL COLD mark, add a 50/50 mixture of clean, drinkable water and DEX-COOL coolant at the coolant recovery tank, but be sure the cooling system is cool before this is done.

The coolant level should be at least up to the FULL COLD mark. If it is not, there may be a leak in the cooling system.

## How to Add Coolant to the Recovery Tank

**⚠ CAUTION:**

You can be burned if you spill coolant on hot engine parts. Coolant contains ethylene glycol and it will burn if the engine parts are hot enough. Do not spill coolant on a hot engine.

***Notice:*** **This vehicle has a specific coolant fill procedure. Failure to follow this procedure could cause the engine to overheat and be severely damaged.**

If coolant is needed, add the proper DEX-COOL coolant mixture at the coolant recovery tank.

When the coolant in the coolant recovery tank is at the FULL COLD mark, start the vehicle.

## How to Add Coolant to the Radiator

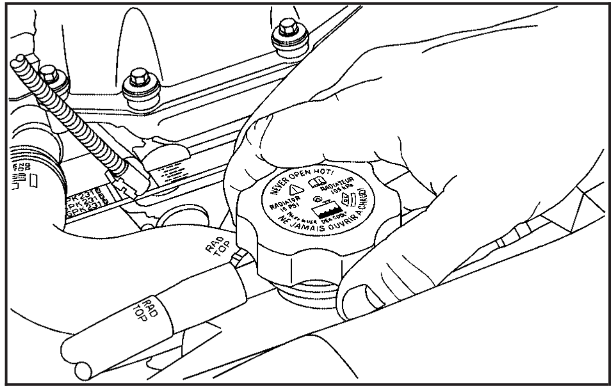
### ⚠ CAUTION:

An electric engine cooling fan under the hood can start up even when the engine is not running and can cause injury. Keep hands, clothing, and tools away from any underhood electric fan.

### ⚠ CAUTION:

Steam and scalding liquids from a hot cooling system can blow out and burn you badly. They are under pressure, and if you turn the surge tank pressure cap — even a little — they can come out at high speed. Never turn the cap when the cooling system, including the surge tank pressure cap, is hot. Wait for the cooling system and surge tank pressure cap to cool if you ever have to turn the pressure cap.

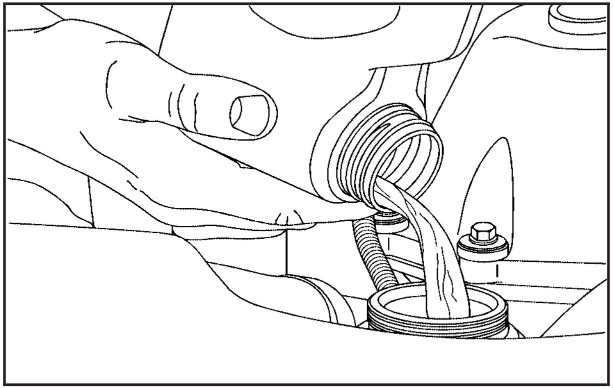
If coolant is needed, add the proper mixture directly to the radiator, but be sure the cooling system is cool before this is done.



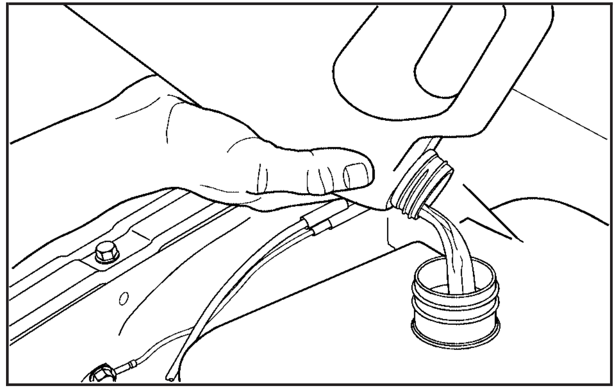

1. You can remove the radiator pressure cap when the cooling system, including the radiator pressure cap and upper radiator hose, is no longer hot.

   Turn the pressure cap slowly counterclockwise about one full turn. If you hear a hiss, wait for that to stop. A hiss means there is still some pressure left.

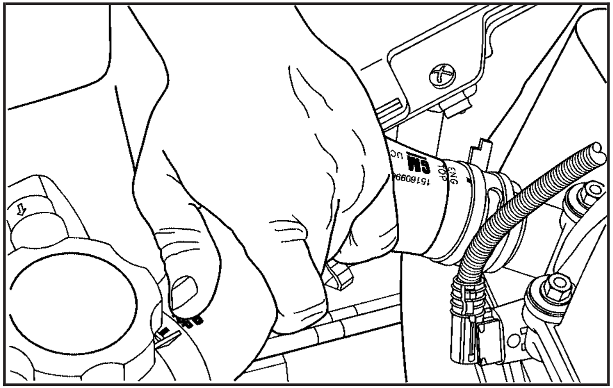
2. Then keep turning the pressure cap. Remove the pressure cap.



3. Fill the radiator with the proper DEX-COOL coolant mixture, up to the base of the filler neck. See *Engine Coolant on page 5-29* for more information about the proper coolant mixture.



4. Then fill the coolant recovery tank to the FULL COLD mark.
5. Put the cap back on the coolant recovery tank, but leave the radiator pressure cap off.



6. Start the engine and let it run until you can feel the upper radiator hose getting hot. Watch out for the engine cooling fan.
7. By this time, the coolant level inside the radiator filler neck may be lower. If the level is lower, add more of the proper DEX-COOL coolant mixture through the filler neck until the level reaches the base of the filler neck.
8. Then replace the pressure cap. At any time during this procedure if coolant begins to flow out of the filler neck, reinstall the pressure cap. Be sure the pressure cap is hand-tight and fully seated.

***Notice:*** **If the pressure cap is not tightly installed, coolant loss and possible engine damage may occur. Be sure the cap is properly and tightly secured.**

## Radiator Pressure Cap

***Notice:*** **If the pressure cap is not tightly installed, coolant loss and possible engine damage may occur. Be sure the cap is properly and tightly secured.**

See *Engine Compartment Overview on page 5-12* for information on location.

## Engine Overheating

The vehicle has several indicators to warn of engine overheating.

You will find a coolant temperature gage on the vehicle's instrument panel. See *Engine Coolant Temperature Gage on page 3-38* for more information.

If the vehicle has a Driver Information Center (DIC), the display will show an Engine Coolant Hot/Engine Overheated message. See *DIC Warnings and Messages on page 3-51* for more information.

You may decide not to lift the hood when this warning appears, but instead get service help right away. See *Roadside Assistance Program on page 7-7*.

If you do decide to lift the hood, make sure the vehicle is parked on a level surface.

Then check to see if the engine cooling fans are running. If the engine is overheating, both fans should be running. If they are not, do not continue to run the engine and have the vehicle serviced.

***Notice:*** **Engine damage from running the engine without coolant is not covered by the warranty.**

***Notice:*** **If the engine catches fire because of being driven with no coolant, your vehicle can be badly damaged. The costly repairs would not be covered by the vehicle warranty.**

## If Steam Is Coming From The Engine Compartment

**⚠ CAUTION:**

Steam from an overheated engine can burn you badly, even if you just open the hood. Stay away from the engine if you see or hear steam coming from it. Just turn it off and get everyone away from the vehicle until it cools down. Wait until there is no sign of steam or coolant before you open the hood.

If you keep driving when your engine is overheated, the liquids in it can catch fire. You or others could be badly burned. Stop your engine if it overheats, and get out of the vehicle until the engine is cool.

### If No Steam Is Coming From The Engine Compartment

If an engine overheat warning is displayed but no steam can be seen or heard, the problem may not be too serious. Sometimes the engine can get a little too hot when the vehicle:

- Climbs a long hill on a hot day.
- Stops after high-speed driving.
- Idles for long periods in traffic.
- Tows a trailer.

If the overheat warning is displayed with no sign of steam:

1. Turn the air conditioning off.
2. Turn the heater on to the highest temperature and to the highest fan speed. Open the windows as necessary.
3. In heavy traffic, let the engine idle in N (Neutral) while stopped. If it is safe to do so, pull off the road, shift to P (Park) or N (Neutral) and let the engine idle.

If the temperature overheat gage is no longer in the overheat zone or an overheat warning no longer displays, the vehicle can be driven. Continue to drive the vehicle slow for about 10 minutes. Keep a safe vehicle distance from the car in front of you. If the warning does not come back on, continue to drive normally.

If the warning continues, pull over, stop, and park the vehicle right away.

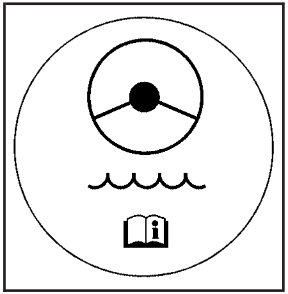
If there is no sign of steam, idle the engine for three minutes while parked. If the warning is still displayed, turn off the engine until it cools down.

## Engine Fan Noise

The vehicle has a clutched engine cooling fan. When the clutch is engaged, the fan spins faster to provide more air to cool the engine. In most everyday driving conditions the clutch is not engaged. This improves fuel economy and reduces fan noise. Under heavy vehicle loading, trailer towing, and/or high outside temperatures, the fan speed increases when the clutch engages so you may hear an increase in fan noise. This is normal and should not be mistaken as the transmission slipping or making extra shifts. It is merely the cooling system functioning properly. The fan will slow down when additional cooling is not required and the clutch disengages.

You may also hear this fan noise when the engine is started. The sound will go away as the fan clutch disengages.

## Power Steering Fluid



See *Engine Compartment Overview on page 5-12* for reservoir location.

## When to Check Power Steering Fluid

It is not necessary to regularly check power steering fluid unless you suspect there is a leak in the system or you hear an unusual noise. A fluid loss in this system could indicate a problem. Have the system inspected and repaired.

## How to Check Power Steering Fluid

To check the power steering fluid, do the following:

1. Turn the key off and let the engine compartment cool down.
2. Wipe the cap and the top of the reservoir clean.
3. Unscrew the cap and wipe the dipstick with a clean rag.
4. Replace the cap and completely tighten it.
5. Remove the cap again and look at the fluid level on the dipstick.

For vehicles with the 4.2L L6 engine, the level should be at the C (Cold) mark. For vehicles with the 5.3L or 6.0L V8 engines, the level should be at the FULL mark. If necessary, add only enough fluid to bring the level up to the mark.

## What to Use

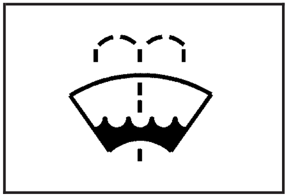
To determine what kind of fluid to use, see *Recommended Fluids and Lubricants on page 6-12*. Always use the proper fluid. Failure to use the proper fluid can cause leaks and damage hoses and seals.

# Windshield Washer Fluid

## What to Use

When the vehicle needs windshield washer fluid, be sure to read the manufacturer's instructions before use. If the vehicle will be operating in an area where the temperature may fall below freezing, use a fluid that has sufficient protection against freezing.

## Adding Washer Fluid



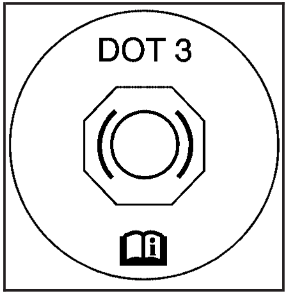
Open the cap with the washer symbol on it. Add washer fluid until the tank is full. See *Engine Compartment Overview on page 5-12* for reservoir location.

***Notice:***

- **When using concentrated washer fluid, follow the manufacturer's instructions for adding water.**
- **Do not mix water with ready-to-use washer fluid. Water can cause the solution to freeze and damage your washer fluid tank and other parts of the washer system. Also, water does not clean as well as washer fluid.**
- **Fill the washer fluid tank only three-quarters full when it is very cold. This allows for fluid expansion if freezing occurs, which could damage the tank if it is completely full.**
- **Do not use engine coolant (antifreeze) in your windshield washer. It can damage the vehicle's windshield washer system and paint.**

# Brakes

## Brake Fluid




The brake master cylinder reservoir is filled with DOT-3 brake fluid. See *Engine Compartment Overview on page 5-12* for the location of the reservoir.

There are only two reasons why the brake fluid level in the reservoir might go down:

- The brake fluid level goes down because of normal brake lining wear. When new linings are installed, the fluid level goes back up.
- A fluid leak in the brake hydraulic system can also cause a low fluid level. Have the brake hydraulic system fixed, since a leak means that sooner or later the brakes will not work well.

Do not top off the brake fluid. Adding fluid does not correct a leak. If fluid is added when the linings are worn, there will be too much fluid when new brake linings are installed. Add or remove brake fluid, as necessary, only when work is done on the brake hydraulic system.

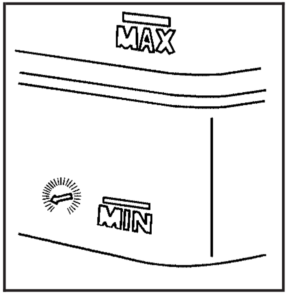
**⚠ CAUTION:**

If too much brake fluid is added, it can spill on the engine and burn, if the engine is hot enough. You or others could be burned, and the vehicle could be damaged. Add brake fluid only when work is done on the brake hydraulic system. See “Checking Brake Fluid” in this section.

Refer to the Maintenance Schedule to determine when to check your brake fluid. See *Scheduled Maintenance on page 6-4*.

## Checking Brake Fluid

Check brake fluid by looking at the brake fluid reservoir. See *Engine Compartment Overview on page 5-12*.




The fluid level should be above MIN. If it is not, have the brake hydraulic system checked to see if there is a leak.

After work is done on the brake hydraulic system, make sure the level is above the MIN, but not over the MAX mark.

### What to Add

Use only new DOT-3 brake fluid from a sealed container. See *Recommended Fluids and Lubricants on page 6-12*.

Always clean the brake fluid reservoir cap and the area around the cap before removing it. This helps keep dirt from entering the reservoir.

**⚠ CAUTION:**

With the wrong kind of fluid in the brake hydraulic system, the brakes might not work well. This could cause a crash. Always use the proper brake fluid.

***Notice:***

- **Using the wrong fluid can badly damage brake hydraulic system parts. For example, just a few drops of mineral-based oil, such as engine oil, in the brake hydraulic system can damage brake hydraulic system parts so badly that they will have to be replaced. Do not let someone put in the wrong kind of fluid.**
- **If brake fluid is spilled on the vehicle's painted surfaces, the paint finish can be damaged. Be careful not to spill brake fluid on the vehicle. If you do, wash it off immediately. See *Washing Your Vehicle on page 5-113*.**

## Brake Wear

This vehicle has disc brakes. Disc brake pads have built-in wear indicators that make a high-pitched warning sound when the brake pads are worn and new pads are needed. The sound can come and go or be heard all the time the vehicle is moving, except when applying the brake pedal firmly.

**⚠ CAUTION:**

The brake wear warning sound means that soon the brakes will not work well. That could lead to an accident. When the brake wear warning sound is heard, have the vehicle serviced.

***Notice:*** **Continuing to drive with worn-out brake pads could result in costly brake repair.**

Some driving conditions or climates can cause a brake squeal when the brakes are first applied or lightly applied. This does not mean something is wrong with the brakes.

Properly torqued wheel nuts are necessary to help prevent brake pulsation. When tires are rotated, inspect brake pads for wear and evenly tighten wheel nuts in the proper sequence to torque specifications in *Capacities and Specifications on page 5-125*.

Brake linings should always be replaced as complete axle sets.

## Brake Pedal Travel

See your dealer/retailer if the brake pedal does not return to normal height, or if there is a rapid increase in pedal travel. This could be a sign that brake service might be required.

## Brake Adjustment

Every brake stop, the disc brakes adjust for wear.

## Replacing Brake System Parts

The braking system on a vehicle is complex. Its many parts have to be of top quality and work well together if the vehicle is to have really good braking. The vehicle was designed and tested with top-quality brake parts. When parts of the braking system are replaced — for example, when the brake linings wear down and new ones are installed — be sure to get new approved replacement parts. If this is not done, the brakes might not work properly. For example, if someone puts in brake linings that are wrong for the vehicle, the balance between the front and rear brakes can change — for the worse. The braking performance expected can change in many other ways if the wrong replacement brake parts are installed.

# Battery

This vehicle has a maintenance free battery. When it is time for a new battery, see your dealer/retailer for one that has the replacement number shown on the original battery's label. See *Engine Compartment Overview on page 5-12* for battery location.

***Warning:*** Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

## Vehicle Storage

**⚠ CAUTION:**

Batteries have acid that can burn you and gas that can explode. You can be badly hurt if you are not careful. See *Jump Starting on page 5-43* for tips on working around a battery without getting hurt.

Infrequent Usage: If the vehicle is driven infrequently, remove the black, negative (–) cable from the battery. This helps keep the battery from running down.

Extended Storage: For extended storage of the vehicle, remove the black, negative (–) cable from the battery or use a battery trickle charger. This helps maintain the charge of the battery over an extended period of time.

## Jump Starting

If the vehicle's battery has run down, you may want to use another vehicle and some jumper cables to start your vehicle. Be sure to use the following steps to do it safely.

> ⚠ **CAUTION:**
>
> Batteries can hurt you. They can be dangerous because:
>
> - They contain acid that can burn you.
> - They contain gas that can explode or ignite.
> - They contain enough electricity to burn you.
>
> If you do not follow these steps exactly, some or all of these things can hurt you.

***Notice:*** **Ignoring these steps could result in costly damage to the vehicle that would not be covered by the warranty.**

**Trying to start the vehicle by pushing or pulling it will not work, and it could damage the vehicle.**

1. Check the other vehicle. It must have a 12-volt battery with a negative ground system.

***Notice:*** **If the other vehicle's system is not a 12-volt system with a negative ground, both vehicles can be damaged. Only use vehicles with 12-volt systems with negative grounds to jump start your vehicle.**

2. Get the vehicles close enough so the jumper cables can reach, but be sure the vehicles are not touching each other. If they are, it could cause a ground connection you do not want. You would not be able to start your vehicle, and the bad grounding could damage the electrical systems.

   To avoid the possibility of the vehicles rolling, set the parking brake firmly on both vehicles involved in the jump start procedure. Put an automatic transmission in P (Park) or a manual transmission in N (Neutral) before setting the parking brake. If you have a four-wheel-drive vehicle, be sure the transfer case is not in N (Neutral).

***Notice:*** **If you leave the radio or other accessories on during the jump starting procedure, they could be damaged. The repairs would not be covered by the warranty. Always turn off the radio and other accessories when jump starting the vehicle.**

3. Turn off the ignition on both vehicles. Unplug unnecessary accessories plugged into the cigarette lighter or the accessory power outlets, if equipped. Turn off the radio and all lamps that are not needed. This will avoid sparks and help to save both batteries. And it could save the radio!
4. Open both hoods and locate the batteries. Find the positive (+) and negative (–) terminals on each battery. Your vehicle has a remote negative (–) jump starting terminal. You should always use this remote terminal instead of the terminal on the battery. The remote negative (–) terminal is located on the front engine lift bracket on vehicles with the 4.2L L6 engine or the engine accessory drive bracket for vehicles with the 5.3L or 6.0L V8 engines, and is marked GND (Ground). See *Engine Compartment Overview on page 5-12* for more information on location.

## ⚠ CAUTION:

Using a match near a battery can cause battery gas to explode. People have been hurt doing this, and some have been blinded. Use a flashlight if you need more light.

Be sure the battery has enough water. You do not need to add water to the battery installed in your new vehicle. But if a battery has filler caps, be sure the right amount of fluid is there. If it is low, add water to take care of that first. If you do not, explosive gas could be present.

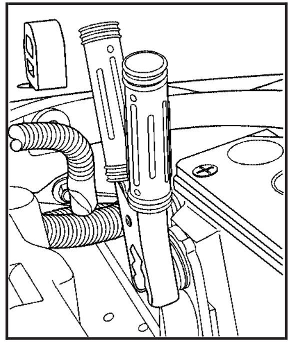
Battery fluid contains acid that can burn you. Do not get it on you. If you accidentally get it in your eyes or on your skin, flush the place with water and get medical help immediately.

## ⚠ CAUTION:

Fans or other moving engine parts can injure you badly. Keep your hands away from moving parts once the engine is running.

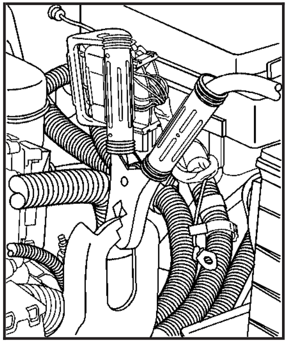
5. Check that the jumper cables do not have loose or missing insulation. If they do, you could get a shock. The vehicles could be damaged too.

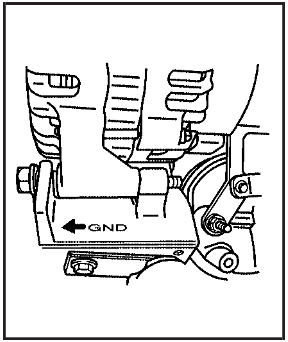
   Before you connect the cables, here are some basic things you should know. Positive (+) will go to positive (+) or to a remote positive (+) terminal if the vehicle has one. Negative (–) will go to a heavy, unpainted metal engine part or to a remote negative (–) terminal if the vehicle has one. Do not connect positive (+) to negative (–) or you will get a short that would damage the battery and maybe other parts too. And do not connect the negative (–) cable to the negative (–) terminal on the dead battery because this can cause sparks.



6. Connect the red positive (+) cable to the positive (+) terminal of the dead battery. Use a remote positive (+) terminal if the vehicle has one.
7. Do not let the other end touch metal. Connect it to the positive (+) terminal of the good battery. Use a remote positive (+) terminal if the vehicle has one.
8. Now connect the black negative (–) cable to the negative (–) terminal of the good battery. Use a remote negative (–) terminal if the vehicle has one.

   Do not let the other end touch anything until the next step. The other end of the negative (–) cable does not go to the dead battery. It goes to a heavy, unpainted metal engine part or to the remote negative (–) terminal on the vehicle with the dead battery. Your vehicle has a remote negative (–) terminal, marked GND, for this purpose.


4.2L L6 Engine

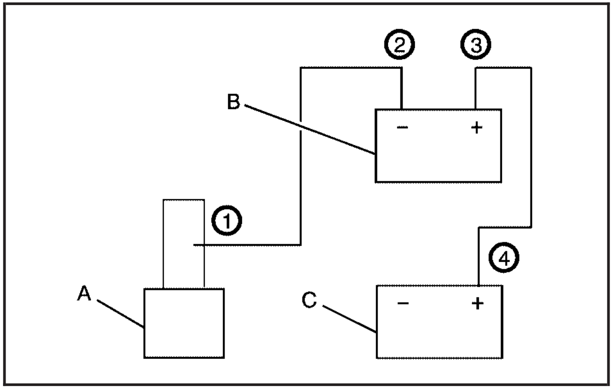


5.3L V8 Engine shown, 6.0L V8 Engine similar

The remote negative (–) terminal is located on the front engine lift bracket for the 4.2L L6 engine, and on the accessory drive bracket for the 5.3L or 6.0L V8 engines.

9. Connect the other end of the negative (–) cable to the remote negative (–) terminal on the vehicle with the dead battery.
10. Now start the vehicle with the good battery and run the engine for a while.
11. Try to start the vehicle that had the dead battery. If it will not start after a few tries, it probably needs service.

***Notice:*** **If the jumper cables are connected or removed in the wrong order, electrical shorting may occur and damage the vehicle. The repairs would not be covered by your warranty. Always connect and remove the jumper cables in the correct order, making sure that the cables do not touch each other or other metal.**




**Jumper Cable Removal**

A. Heavy, Unpainted Metal Engine Part or Remote Negative (–) Terminal
B. Good Battery or Remote Positive (+) and Remote Negative (–) Terminals
C. Dead Battery or Remote Positive (+) Terminal

To disconnect the jumper cables from both vehicles, do the following:

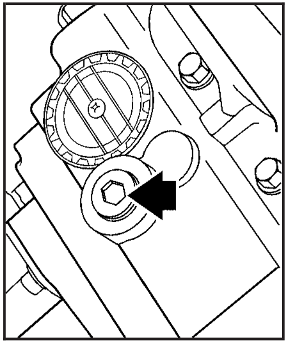
1. Disconnect the black negative (–) cable from the vehicle that had the dead battery.
2. Disconnect the black negative (–) cable from the vehicle with the good battery.
3. Disconnect the red positive (+) cable from the vehicle with the good battery.
4. Disconnect the red positive (+) cable from the other vehicle.

# All-Wheel Drive

## When to Check Lubricant

It is not necessary to regularly check fluid unless you suspect there is a leak or you hear an unusual noise. A fluid loss could indicate a problem. Have it inspected and repaired.

## How to Check Lubricant



To get an accurate reading, the vehicle should be on a level surface.

If the level is below the bottom of the filler plug hole, located on the transfer case, you'll need to add some lubricant. Add enough lubricant to raise the level to the bottom of the filler plug hole. Use care not to overtighten the plug.

## What to Use

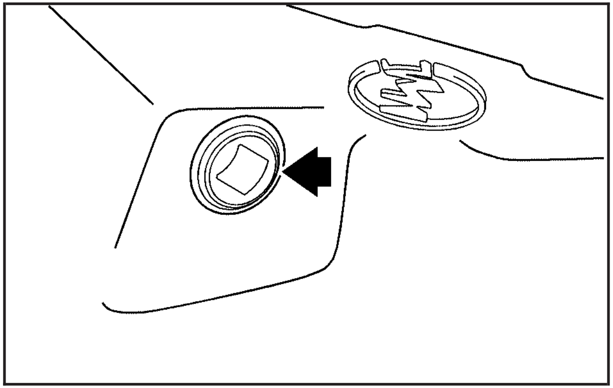
To determine what kind of lubricant to use, see *Recommended Fluids and Lubricants on page 6-12*.

# Rear Axle

## When to Check Lubricant

It is not necessary to regularly check rear axle fluid unless you suspect there is a leak or you hear an unusual noise. A fluid loss could indicate a problem. Have it inspected and repaired.

## How to Check Lubricant



To get an accurate reading, the vehicle should be on a level surface.

For all vehicles, excluding vehicles equipped with the 6.0L V8 Engine, the proper level is from 0 to 0.40 inch (0 to 10 mm) below the bottom of the filler plug hole, located on the rear axle.

For vehicles equipped with the 6.0L V8 Engine, the proper level is from 0.6 inch to 1.6 inches (15 mm to 40 mm) below the bottom of the filler plug hole, located on the rear axle differential cover.

Add only enough fluid to reach the proper level.

## What to Use

To determine what kind of lubricant to use, see *Recommended Fluids and Lubricants on page 6-12*.

For vehicles equipped with the SS package, to add lubricant when the level is low, use SAE 75W–90 Synthetic Axle Lubricant (GM Part No. U.S. 12378261, in Canada 10953455) meeting GM Specification 9986115. To completely refill after draining, add 5.5 ounces (163 ml) of Limited-Slip Axle Lubricant Additive (GM Part No. U.S. 1052358, in Canada 992694). Then fill to the bottom of the filler plug hole with the Synthetic Gear Lubricant.

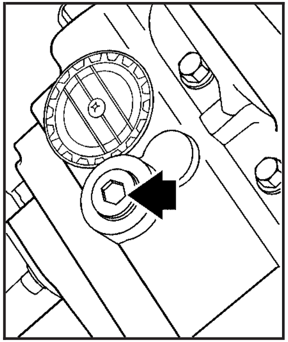
# Four-Wheel Drive

## Transfer Case

### When to Check Lubricant

It is not necessary to regularly check fluid unless you suspect there is a leak or you hear an unusual noise. A fluid loss could indicate a problem. Have it inspected and repaired.

### How to Check Lubricant



To get an accurate reading, the vehicle should be on a level surface.

If the level is below the bottom of the filler plug hole, you will need to add some lubricant. Add enough lubricant to raise the level to the bottom of the filler plug hole. Use care not to overtighten the plug.

### What to Use

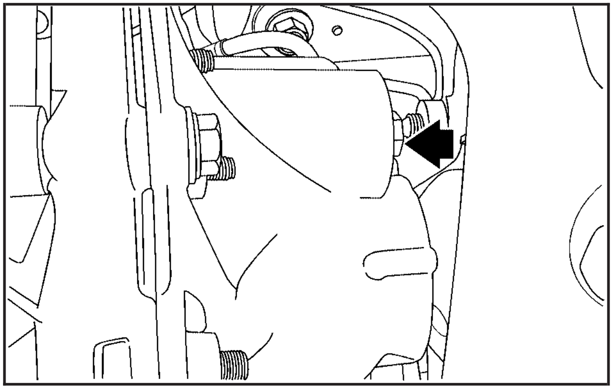
To determine what kind of lubricant to use, see *Recommended Fluids and Lubricants on page 6-12*.

# Front Axle

## When to Check Lubricant

It is not necessary to regularly check front axle fluid unless you suspect there is a leak or you hear an unusual noise. A fluid loss could indicate a problem. Have it inspected and repaired.

## How to Check Lubricant



To get an accurate reading, the vehicle should be on a level surface.

If the level is below the bottom of the filler plug hole, located on the front axle, you may need to add some lubricant.

When the differential is cold, add enough lubricant to raise the level to 0.50 inch (12 mm) below the filler plug hole.

When the differential is at operating temperature (warm), add enough lubricant to raise the level to the bottom of the filler plug hole.

## What to Use

To determine what kind of lubricant to use, see *Recommended Fluids and Lubricants on page 6-12*.

# Headlamp Aiming

Headlamp aim has been preset at the factory and should need no further adjustment.

However, if your vehicle is damaged in a crash, the headlamp aim may be affected. Aim adjustment to the low-beam headlamps may be necessary if oncoming drivers flash their high-beam headlamps at you (for vertical aim).

If the headlamps need to be re-aimed, it is recommended that you take the vehicle to your dealer/retailer for service.

# Bulb Replacement

For the proper type of replacement bulbs, see *Replacement Bulbs on page 5-54*.

For any bulb changing procedure not listed in this section, contact your dealer/retailer.

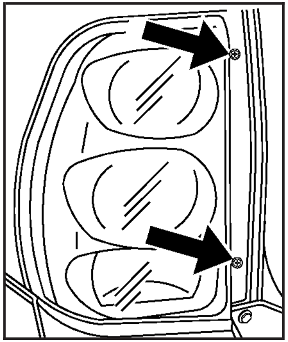
## Halogen Bulbs

**⚠ CAUTION:**

Halogen bulbs have pressurized gas inside and can burst if you drop or scratch the bulb. You or others could be injured. Be sure to read and follow the instructions on the bulb package.

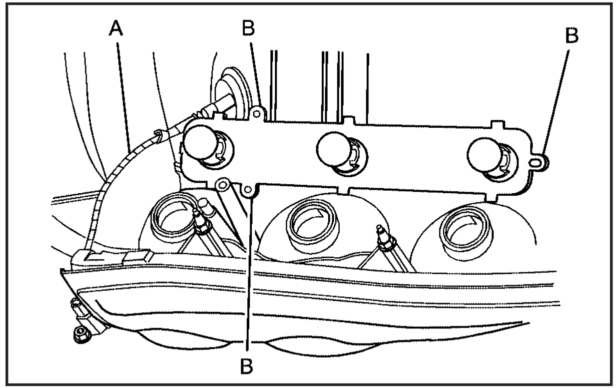
## Taillamps and Turn Signal Lamps

1. Open the liftgate. See *Liftgate/Liftglass on page 2-13*.



2. Remove the two screws from the taillamp assembly.

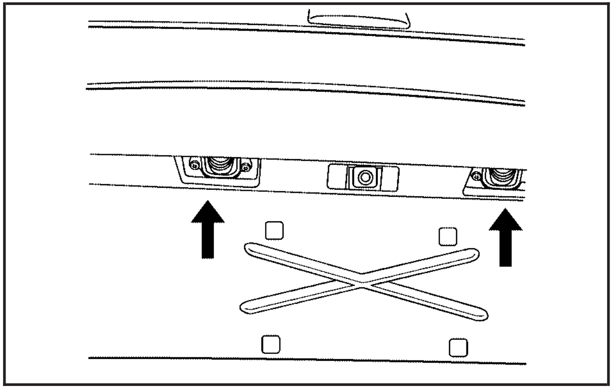
3. Pull the taillamp assembly away from the vehicle.




4. Unclip the wiring harness (A) and remove the three retaining screws (B) from the socket plate.
5. Remove the socket plate.
6. Holding the socket, pull the bulb to release it from the socket.
7. Push the new bulb into the socket until it clicks.
8. Reinstall the socket and tighten the three screws.
9. Reconnect the wiring harness.
10. Reinstall the taillamp assembly by lining up the locator pins with the retainers in the vehicle's body.
11. Reinstall the two screws and tighten.

## License Plate Lamp

1. Remove the two screws holding the license plate lamp lens.



2. Pull the lens away from the lamp assembly.
3. Pull the old bulb straight out from the bulb socket.
4. Push the new bulb into the socket until it clicks.
5. Replace the lamp assembly lens and tighten the screws.

## Replacement Bulbs

| Exterior Lamp | Bulb Number |
|---|---|
| License Plate Lamp | W5W |
| Taillamps | 3157 |

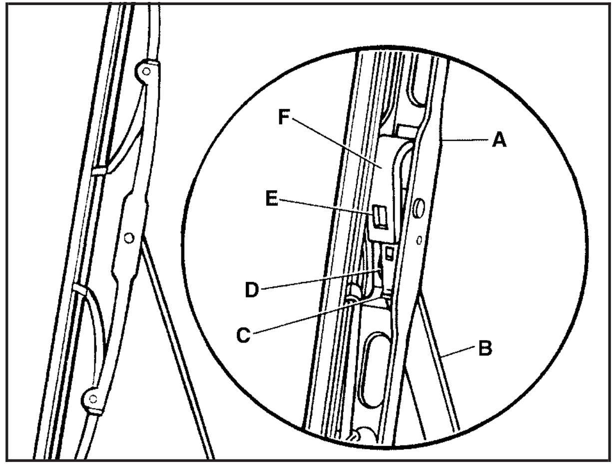
For replacement bulbs not listed here, contact your dealer/retailer.

# Windshield Wiper Blade Replacement

Windshield wiper blades should be inspected for wear or cracking. See *Scheduled Maintenance on page 6-4*.

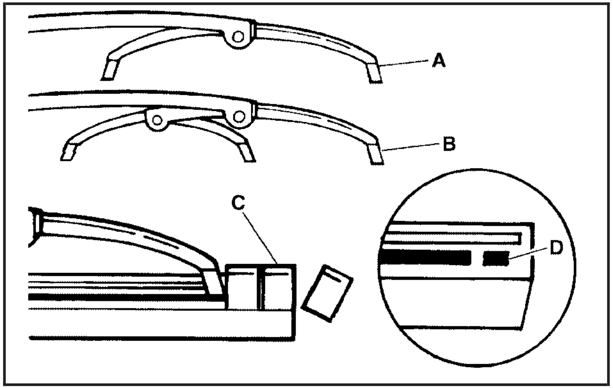
Allowing the wiper blade arm to touch the windshield when no wiper blade is installed could damage the windshield. Any damage that occurs would not be covered by your warranty. Do not allow the wiper blade arm to touch the windshield.

1. To remove the old wiper blades, lift the wiper arm until it locks into a vertical position.

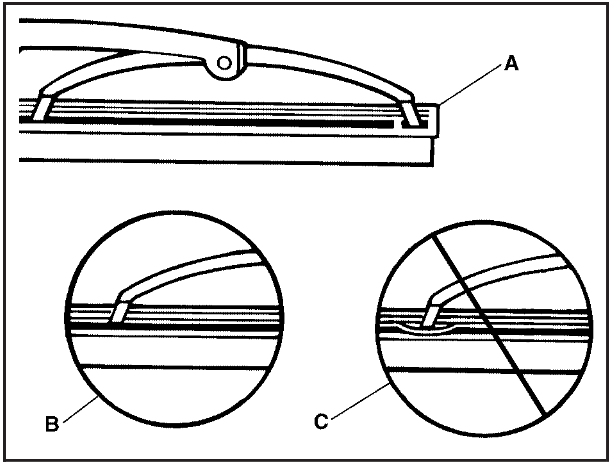



A. Blade Assembly
B. Arm Assembly
C. Locking Tab
D. Blade Pivot
E. Hook Slot
F. Arm Hook

2. Press down on the blade assembly pivot locking tab. Pull down on the blade assembly to release it from the wiper arm hook.
3. Remove the insert from the blade assembly. The insert has two notches at one end that are locked by the bottom claws of the blade assembly. At the notched end, pull the insert from the blade assembly.




4. To install the new wiper insert, slide the insert (D), notched end last, into the end with two blade claws (A). Slide the insert all the way through the blade claws at the opposite end (B). The plastic caps (C) will be forced off as the insert is fully inserted.
5. Be sure that the notches are locked by the bottom claws. Make sure that all other claws are properly locked on both sides of the insert slots.



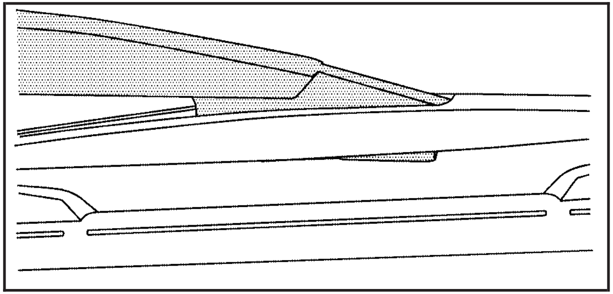

A. Claw in Notch

B. Correct Installation

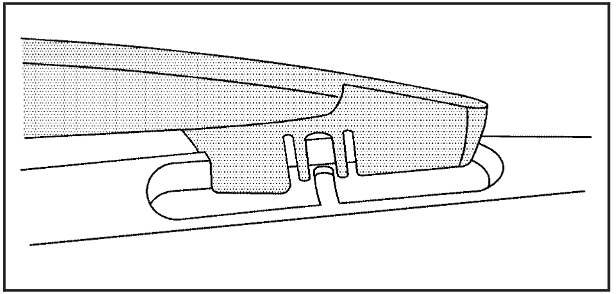
C. Incorrect Installation

6. Put the blade assembly pivot in the wiper arm hook. Pull up until the pivot locking tab locks in the hook slot.
7. Carefully lower the wiper arm and blade assembly onto the windshield.

## Backglass Wiper Blade Replacement



1. Lift the wiper blade assembly up and out of the park rest position.
2. Pull the wiper blade assembly away from the backglass. The backglass wiper blade will not lock in a vertical position, so care should be used when pulling it away from the vehicle.
3. Rotate the wiper blade assembly, and pull it off of the wiper arm. Hold the wiper arm in position and push the blade away from the wiper arm.



4. Replace the wiper blade.
5. Return the wiper blade assembly to the park rest position.

# Tires

Your new vehicle comes with high-quality tires made by a leading tire manufacturer. If you ever have questions about your tire warranty and where to obtain service, see your vehicle Warranty booklet for details. For additional information refer to the tire manufacturer.

**⚠ CAUTION:**

- Poorly maintained and improperly used tires are dangerous.
- Overloading your tires can cause overheating as a result of too much flexing. You could have an air-out and a serious accident. See *Loading the Vehicle on page 4-33*.

CAUTION: (Continued)

**CAUTION: (Continued)**

- Underinflated tires pose the same danger as overloaded tires. The resulting accident could cause serious injury. Check all tires frequently to maintain the recommended pressure. Tire pressure should be checked when your tires are cold. See *Inflation - Tire Pressure on page 5-65*.
- Overinflated tires are more likely to be cut, punctured, or broken by a sudden impact — such as when you hit a pothole. Keep tires at the recommended pressure.
- Worn, old tires can cause accidents. If your tread is badly worn, or if your tires have been damaged, replace them.

See *High-Speed Operation on page 5-66* for inflation pressure adjustment for high speed driving.

## Low-Profile Performance Tire

If your vehicle has P255/50R20 size tires, they are classified as low-profile performance tires. These tires are designed for very responsive driving on wet or dry pavement. You may also notice more road noise with low-profile performance tires and that they tend to wear faster.

***Notice:*** **If the vehicle has low-profile tires, they are more susceptible to damage from road hazards or curb impact than standard profile tires. Tire and/or wheel assembly damage can occur when coming into contact with road hazards like, potholes, or sharp edged objects, or when sliding into a curb. The vehicle warranty does not cover this type of damage. Keep tires set to the correct inflation pressure and, when possible avoid contact with curbs, potholes, and other road hazards.**

# Winter Tires

For cold weather driving conditions you may prefer to get tires designed for snow or ice, if your vehicle has P255/50R20 size tires. See your dealer for details regarding winter tire availability and proper tire selection. Also, see *Buying New Tires on page 5-75*.

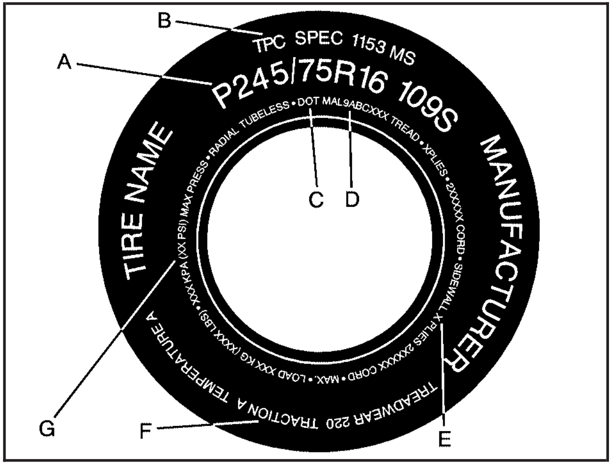
If you choose to use winter tires:

- Use tires of the same brand and tread type on all four wheel positions.
- Use only radial ply tires of the same size, load range, and speed rating as your original equipment tires.

Winter tires with the same speed rating as your original equipment tires may not be available for H, V, W, Y and ZR speed rated tires. If you choose winter tires with a lower speed rating, never exceed the tire's maximum speed capability.

## Tire Sidewall Labeling

Useful information about a tire is molded into the sidewall. The following illustration is an example of a typical P-Metric tire sidewall.




**Passenger (P-Metric) Tire**

**(A) Tire Size:** The tire size code is a combination of letters and numbers used to define a particular tire's width, height, aspect ratio, construction type, and service description. See the "Tire Size" illustration later in this section for more detail.

**(B) TPC Spec (Tire Performance Criteria Specification):** Original equipment tires designed to GM's specific tire performance criteria have a TPC specification code molded onto the sidewall. GM's TPC specifications meet or exceed all federal safety guidelines.

**(C) DOT (Department of Transportation):** The Department of Transportation (DOT) code indicates that the tire is in compliance with the U.S. Department of Transportation Motor Vehicle Safety Standards.

**(D) Tire Identification Number (TIN):** The letters and numbers following DOT code are the Tire Identification Number (TIN). The TIN shows the manufacturer and plant code, tire size, and date the tire was manufactured. The TIN is molded onto both sides of the tire, although only one side may have the date of manufacture.

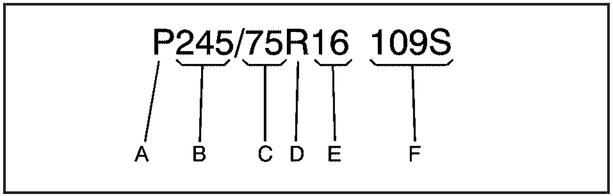
**(E) Tire Ply Material:** The type of cord and number of plies in the sidewall and under the tread.

**(F) Uniform Tire Quality Grading (UTQG):** Tire manufacturers are required to grade tires based on three performance factors: treadwear, traction, and temperature resistance. For more information, see *Uniform Tire Quality Grading on page 5-78*.

**(G) Maximum Cold Inflation Load Limit:** Maximum load that can be carried and the maximum pressure needed to support that load. For information on recommended tire pressure see *Inflation - Tire Pressure on page 5-65* and *Loading the Vehicle on page 4-33*.

## Tire Size

The following examples show the different parts of a tire size.




**Passenger (P-Metric) Tire**

**(A) Passenger (P-Metric) Tire:** The United States version of a metric tire sizing system. The letter P as the first character in the tire size means a passenger vehicle tire engineered to standards set by the U.S. Tire and Rim Association.

**(B) Tire Width:** The three-digit number indicates the tire section width in millimeters from sidewall to sidewall.

**(C) Aspect Ratio:** A two-digit number that indicates the tire height-to-width measurements. For example, if the tire size aspect ratio is 75, as shown in item C of the passenger (P-Metric) tire illustration, it would mean that the tire's sidewall is 75 percent as high as it is wide.

**(D) Construction Code:** A letter code is used to indicate the type of ply construction in the tire. The letter R means radial ply construction; the letter D means diagonal or bias ply construction; and the letter B means belted-bias ply construction.

**(E) Rim Diameter:** Diameter of the wheel in inches.

**(F) Service Description:** The service description indicates the load range and speed rating of a tire. The load index can range from 1 to 279. Speed ratings range from A to Z.

## Tire Terminology and Definitions

**Air Pressure:** The amount of air inside the tire pressing outward on each square inch of the tire. Air pressure is expressed in pounds per square inch (psi) or kilopascal (kPa).

**Accessory Weight:** This means the combined weight of optional accessories. Some examples of optional accessories are, automatic transmission, power steering, power brakes, power windows, power seats, and air conditioning.

**Aspect Ratio:** The relationship of a tire's height to its width.

**Belt:** A rubber coated layer of cords that is located between the plies and the tread. Cords may be made from steel or other reinforcing materials.

**Bead:** The tire bead contains steel wires wrapped by steel cords that hold the tire onto the rim.

**Bias Ply Tire:** A pneumatic tire in which the plies are laid at alternate angles less than 90 degrees to the centerline of the tread.

**Cold Tire Pressure:** The amount of air pressure in a tire, measured in pounds per square inch (psi) or kilopascals (kPa) before a tire has built up heat from driving. See *Inflation - Tire Pressure on page 5-65*.

**Curb Weight:** The weight of a motor vehicle with standard and optional equipment including the maximum capacity of fuel, oil, and coolant, but without passengers and cargo.

**DOT Markings:** A code molded into the sidewall of a tire signifying that the tire is in compliance with the U.S. Department of Transportation (DOT) motor vehicle safety standards. The DOT code includes the Tire Identification Number (TIN), an alphanumeric designator which can also identify the tire manufacturer, production plant, brand, and date of production.

**GVWR:** Gross Vehicle Weight Rating. See *Loading the Vehicle on page 4-33*.

**GAWR FRT:** Gross Axle Weight Rating for the front axle. See *Loading the Vehicle on page 4-33*.

**GAWR RR:** Gross Axle Weight Rating for the rear axle. See *Loading the Vehicle on page 4-33*.

**Intended Outboard Sidewall:** The side of an asymmetrical tire, that must always face outward when mounted on a vehicle.

**Kilopascal (kPa):** The metric unit for air pressure.

**Light Truck (LT-Metric) Tire:** A tire used on light duty trucks and some multipurpose passenger vehicles.

**Load Index:** An assigned number ranging from 1 to 279 that corresponds to the load carrying capacity of a tire.

**Maximum Inflation Pressure:** The maximum air pressure to which a cold tire can be inflated. The maximum air pressure is molded onto the sidewall.

**Maximum Load Rating:** The load rating for a tire at the maximum permissible inflation pressure for that tire.

**Maximum Loaded Vehicle Weight:** The sum of curb weight, accessory weight, vehicle capacity weight, and production options weight.

**Normal Occupant Weight:** The number of occupants a vehicle is designed to seat multiplied by 150 lbs (68 kg). See *Loading the Vehicle on page 4-33*.

**Occupant Distribution:** Designated seating positions.

**Outward Facing Sidewall:** The side of an asymmetrical tire that has a particular side that faces outward when mounted on a vehicle. The side of the tire that contains a whitewall, bears white lettering, or bears manufacturer, brand, and/or model name molding that is higher or deeper than the same moldings on the other sidewall of the tire.

**Passenger (P-Metric) Tire:** A tire used on passenger cars and some light duty trucks and multipurpose vehicles.

**Recommended Inflation Pressure:** Vehicle manufacturer's recommended tire inflation pressure as shown on the tire placard. See *Inflation - Tire Pressure on page 5-65* and *Loading the Vehicle on page 4-33*.

**Radial Ply Tire:** A pneumatic tire in which the ply cords that extend to the beads are laid at 90 degrees to the centerline of the tread.

**Rim:** A metal support for a tire and upon which the tire beads are seated.

**Sidewall:** The portion of a tire between the tread and the bead.

**Speed Rating:** An alphanumeric code assigned to a tire indicating the maximum speed at which a tire can operate.

**Traction:** The friction between the tire and the road surface. The amount of grip provided.

**Tread:** The portion of a tire that comes into contact with the road.

**Treadwear Indicators:** Narrow bands, sometimes called wear bars, that show across the tread of a tire when only 1/16 inch (1.6 mm) of tread remains. See *When It Is Time for New Tires on page 5-74*.

**UTQGS (Uniform Tire Quality Grading Standards):** A tire information system that provides consumers with ratings for a tire's traction, temperature, and treadwear. Ratings are determined by tire manufacturers using government testing procedures. The ratings are molded into the sidewall of the tire. See *Uniform Tire Quality Grading on page 5-78*.

**Vehicle Capacity Weight:** The number of designated seating positions multiplied by 150 lbs (68 kg) plus the rated cargo load. See *Loading the Vehicle on page 4-33*.

**Vehicle Maximum Load on the Tire:** Load on an individual tire due to curb weight, accessory weight, occupant weight, and cargo weight.

**Vehicle Placard:** A label permanently attached to a vehicle showing the vehicle's capacity weight and the original equipment tire size and recommended inflation pressure. See "Tire and Loading Information Label" under *Loading the Vehicle on page 4-33*.

## Inflation - Tire Pressure

Tires need the correct amount of air pressure to operate effectively.

***Notice:*** **Do not let anyone tell you that under-inflation or over-inflation is all right. It is not. If your tires do not have enough air (under-inflation), you can get the following:**

- **Too much flexing**
- **Too much heat**
- **Tire overloading**
- **Premature or irregular wear**
- **Poor handling**
- **Reduced fuel economy**

**If your tires have too much air (over-inflation), you can get the following:**

- **Unusual wear**
- **Poor handling**
- **Rough ride**
- **Needless damage from road hazards**

A vehicle specific Tire and Loading Information label is attached to your vehicle. This label shows your vehicle's original equipment tires and the correct inflation pressures for your tires when they are cold. The recommended cold tire inflation pressure, shown on the label, is the minimum amount of air pressure needed to support your vehicle's maximum load carrying capacity.

For additional information regarding how much weight your vehicle can carry, and an example of the Tire and Loading Information label, see *Loading the Vehicle on page 4-33*. How you load your vehicle affects vehicle handling and ride comfort. Never load your vehicle with more weight than it was designed to carry.

### When to Check

Check your tires once a month or more.

Do not forget to check the pressure of the spare tire, if the vehicle has one. See *Spare Tire on page 5-109* for additional information.

## How to Check

Use a good quality pocket-type gage to check tire pressure. You cannot tell if your tires are properly inflated simply by looking at them. Radial tires may look properly inflated even when they are underinflated. Check the tire's inflation pressure when the tires are cold. Cold means your vehicle has been sitting for at least three hours or driven no more than 1 mile (1.6 km).

Remove the valve cap from the tire valve stem. Press the tire gage firmly onto the valve to get a pressure measurement. If the cold tire inflation pressure matches the recommended pressure on the Tire and Loading Information label, no further adjustment is necessary. If the pressure is low, add air until you reach the recommended amount.

If you overfill the tire, release air by pushing on the metal stem in the center of the tire valve. Recheck the tire pressure with the tire gage.

Be sure to put the valve caps back on the valve stems. They help prevent leaks by keeping out dirt and moisture.

# High-Speed Operation

**⚠ CAUTION:**

Driving at high speeds, 100 mph (160 km/h) or higher, puts an additional strain on tires. Sustained high-speed driving causes excessive heat build up and can cause sudden tire failure. You could have a crash and you or others could be killed. Some high-speed rated tires require inflation pressure adjustment for high speed operation. When speed limits and road conditions are such that a vehicle can be driven at high speeds, make sure the tires are rated for high speed operation, in excellent condition, and set to the correct cold tire inflation pressure for the vehicle load.

If your vehicle has P255/50R20 104V size tires installed on the rear axle, they will require inflation pressure adjustment when driving your vehicle at speeds above 99 mph (160 km/h). Set the cold inflation pressure, for the rear tires only, to the maximum inflation pressure shown on the tire sidewall, or 38 psi (262 kPa), whichever is lower. See the example following. When you end this high-speed driving, return the tires to the cold tire inflation pressure shown on the Tire and Loading Information label. See *Loading the Vehicle on page 4-33*.

Example:

You will find the maximum load and inflation pressure molded on the tire's sidewall, in small letters, near the rim flange. It will read something like this: Maximum load 690 kg (1521 lbs) 300 kPa (44 psi) Max. Press.

For this example, you would set the inflation pressure for high-speed driving at 38 psi (262 kPa).

The inflation pressure for the front tires should be set to the cold tire inflation pressure shown on the Tire and Loading Information label.

Racing or other competitive driving may affect the warranty coverage of your vehicle. See your warranty booklet for more information.

## Tire Pressure Monitor System

The Tire Pressure Monitor System (TPMS) uses radio and sensor technology to check tire pressure levels. The TPMS sensors monitor the air pressure in your vehicle's tires and transmit tire pressure readings to a receiver located in the vehicle.

Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a tire pressure monitoring system (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated.

Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists.

When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

See *Tire Pressure Monitor Operation on page 5-69* for additional information.

## Federal Communications Commission (FCC) and Industry and Science Canada

The Tire Pressure Monitor System (TPMS) operates on a radio frequency and complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

The TPMS operates on a radio frequency and complies with RSS-210 of Industry and Science Canada. Operation is subject to the following two conditions:

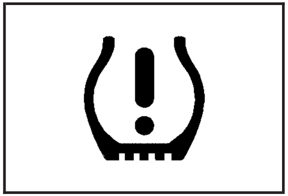
1. This device may not cause interference.
2. This device must accept any interference received, including interference that may cause undesired operation of the device.

Changes or modifications to this system by other than an authorized service facility could void authorization to use this equipment.

# Tire Pressure Monitor Operation

This vehicle may have a Tire Pressure Monitor System (TPMS). The TPMS is designed to warn the driver when a low tire pressure condition exists. TPMS sensors are mounted onto each tire and wheel assembly, excluding the spare tire and wheel assembly, if the vehicle has one. The TPMS sensors monitor the air pressure in the vehicle's tires and transmit the tire pressure readings to a receiver located in the vehicle.

The TPMS is designed to alert the driver if a low tire pressure condition exists. If your vehicle has the Driver Information Center (DIC) steering wheel control buttons, tire pressure levels may also be checked through the DIC. See "Tire Pressures" under *DIC Operation and Displays on page 3-48*.



When a low tire pressure condition is detected, the TPMS illuminates the low tire pressure warning light located on the instrument panel cluster.

At the same time a message to check the pressure in a specific tire appears on the Driver Information Center (DIC) display. The low tire pressure warning light and the DIC warning message come on at each ignition cycle until the tires are inflated to the correct inflation pressure. Using the DIC, tire pressure levels can be viewed by the driver. For additional information and details about the DIC operation and displays see *DIC Operation and Displays on page 3-48* and *DIC Warnings and Messages on page 3-51*.

The low tire pressure warning light may come on in cool weather when the vehicle is first started, and then turn off as you start to drive. This could be an early indicator that the air pressure in the tire(s) is low and needs to be inflated to the proper pressure.

A Tire and Loading Information label, attached to your vehicle, shows the size of your vehicle's original equipment tires and the correct inflation pressure for your vehicle's tires when they are cold. See *Loading the Vehicle on page 4-33*, for an example of the Tire and Loading Information label and its location on your vehicle. Also see *Inflation - Tire Pressure on page 5-65*.

Your vehicle's TPMS can alert you about a low tire pressure condition but it does not replace normal tire maintenance. See *Tire Inspection and Rotation on page 5-73* and *Tires on page 5-58*.

***Notice:*** **Using non-approved tire sealants could damage the Tire Pressure Monitor System (TPMS) sensors. TPMS sensor damage caused by using an incorrect tire sealant is not covered by the vehicle warranty. Always use the GM approved tire sealant available through your dealer/retailer.**

Factory-installed Tire Inflator Kits use a GM approved liquid tire sealant. Using non-approved tire sealants could damage the TPMS sensors. See Tire Sealant and Compressor Kit for information regarding the inflator kit materials and instructions.

## TPMS Malfunction Light and Message

The TPMS will not function properly if one or more of the TPMS sensors are missing or inoperable. When the system detects a malfunction, the low tire warning light flashes for about one minute and then stays on for the remainder of the ignition cycle. A DIC warning message is also displayed. The low tire warning light and DIC warning message come on at each ignition cycle until the problem is corrected. Some of the conditions that can cause the malfunction light and DIC message to come on are:

- One of the road tires has been replaced with the spare tire, if the vehicle has one. The spare tire does not have a TPMS sensor. The TPMS malfunction light and DIC message should go off once you re-install the road tire containing the TPMS sensor.
- The TPMS sensor matching process was started but not completed or not completed successfully after rotating the vehicle's tires. The DIC message and TPMS malfunction light should go off once the TPMS sensor matching process is performed successfully. See "TPMS Sensor Matching Process" later in this section.

- One or more TPMS sensors are missing or damaged. The DIC message and the TPMS malfunction light should go off when the TPMS sensors are installed and the sensor matching process is performed successfully. See your dealer/retailer for service.
- Replacement tires or wheels do not match your vehicle's original equipment tires or wheels. Tires and wheels other than those recommended for your vehicle could prevent the TPMS from functioning properly. See *Buying New Tires on page 5-75*.
- Operating electronic devices or being near facilities using radio wave frequencies similar to the TPMS could cause the TPMS sensors to malfunction.

If the TPMS is not functioning it cannot detect or signal a low tire condition. See your dealer/retailer for service if the TPMS malfunction light and DIC message come on and stay on.

## TPMS Sensor Matching Process

Each TPMS sensor has a unique identification code. Any time you rotate your vehicle's tires or replace one or more of the TPMS sensors, the identification codes will need to be matched to the new tire/wheel position. The sensors are matched to the tire/wheel positions in the following order: driver side front tire, passenger side front tire, passenger side rear tire, and driver side rear tire using a TPMS diagnostic tool. See your dealer/retailer for service.

The TPMS sensors can also be matched to each tire/wheel position by increasing or decreasing the tire's air pressure. If increasing the tire's air pressure, do not exceed the maximum inflation pressure indicated on the tire's sidewall.

To decrease air-pressure out of a tire you can use the pointed end of the valve cap, a pencil-style air pressure gage, or a key.

You have two minutes to match the first tire/wheel position, and five minutes overall to match all four tire/wheel positions. If it takes longer than two minutes, to match the first tire and wheel, or more than five minutes to match all four tire and wheel positions the matching process stops and you need to start over.

The TPMS sensor matching process is outlined below:

1. Set the parking brake.
2. Turn the ignition switch to ON/RUN with the engine off.
3. Turn the headlamp control from off to parking lamps four times within three seconds. A double horn chirp will sound and the TPMS low tire warning light will begin to flash. The double horn chirp and flashing TPMS warning light indicate that the TPMS matching process has started. The TPMS warning light should continue flashing throughout the matching procedure.
4. Start with the driver side front tire.
5. Remove the valve cap from the valve cap stem. Activate the TPMS sensor by increasing or decreasing the tire's air pressure for 10 seconds, then stop and listen for a single horn chirp.

   The single horn chirp should sound within 15 seconds, confirming that the sensor identification code has been matched to this tire and wheel position. If you do not hear the confirming single horn chirp, you will need to start over with step number one.
6. Proceed to the passenger side front tire, and repeat the procedure in Step 5.
7. Proceed to the passenger side rear tire, and repeat the procedure in Step 5.
8. Proceed to the driver side rear tire, and repeat the procedure in Step 5.
9. After hearing the confirming horn chirp for the driver's side rear tire, check to see if the TPMS warning light is still flashing. If yes, turn the ignition switch to LOCK/OFF to exit the sensor matching process. If the TPMS warning light is not flashing, the five minute time limit has passed and you will need to start the process over beginning with Step 1.
10. Set all four tires to the recommended air pressure level as indicated on the Tire and Loading Information label.
11. Put the valve caps back on the valve stems.

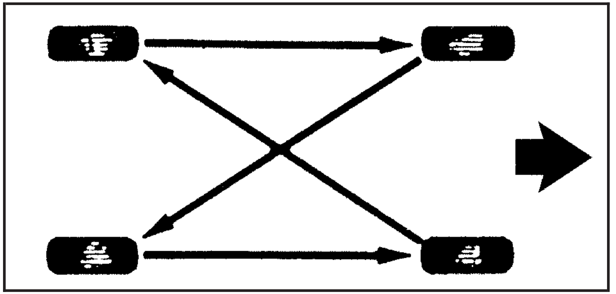
## Tire Inspection and Rotation

We recommend that you regularly inspect your vehicle's tires, including the spare tire, if the vehicle has one, for signs of wear or damage. See *When It Is Time for New Tires on page 5-74* for more information.

Tires should be rotated every 5,000 to 8,000 miles (8 000 to 13 000 km). See *Scheduled Maintenance on page 6-4*.

The purpose of a regular tire rotation is to achieve a uniform wear for all tires on the vehicle. This will ensure that your vehicle continues to perform most like it did when the tires were new.

Any time you notice unusual wear, rotate your tires as soon as possible and check wheel alignment. Also check for damaged tires or wheels. See *When It Is Time for New Tires on page 5-74* and *Wheel Replacement on page 5-80*.



When rotating your tires, always use the correct rotation pattern shown here.

After the tires have been rotated, adjust the front and rear inflation pressures as shown on the Tire and Loading Information label. See *Inflation - Tire Pressure on page 5-65* and *Loading the Vehicle on page 4-33*.

Reset the Tire Pressure Monitor System. See *Tire Pressure Monitor Operation on page 5-69*.

Make certain that all wheel nuts are properly tightened. See “Wheel Nut Torque” under *Capacities and Specifications on page 5-125*.

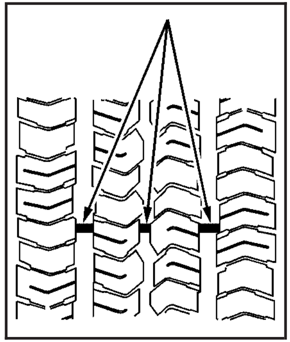
**⚠ CAUTION:**

Rust or dirt on a wheel, or on the parts to which it is fastened, can make wheel nuts become loose after time. The wheel could come off and cause an accident. When you change a wheel, remove any rust or dirt from places where the wheel attaches to the vehicle. In an emergency, you can use a cloth or a paper towel to do this; but be sure to use a scraper or wire brush later, if needed, to get all the rust or dirt off. See *Changing a Flat Tire on page 5-93*.

Make sure the spare tire, if the vehicle has one, is stored securely. Push, pull, and then try to rotate or turn the tire. If it moves, tighten the cable. See *Storing a Flat or Spare Tire and Tools on page 5-106*.

## When It Is Time for New Tires

Various factors, such as maintenance, temperatures, driving speeds, vehicle loading, and road conditions, influence when you need new tires.



One way to tell when it is time for new tires is to check the treadwear indicators, which appear when your tires have only 1/16 inch (1.6 mm) or less of tread remaining. Some commercial truck tires may not have treadwear indicators.

You need new tires if any of the following statements are true:

- You can see the indicators at three or more places around the tire.
- You can see cord or fabric showing through the tire's rubber.
- The tread or sidewall is cracked, cut, or snagged deep enough to show cord or fabric.
- The tire has a bump, bulge, or split.
- The tire has a puncture, cut, or other damage that cannot be repaired well because of the size or location of the damage.

The rubber in tires degrades over time, even if they are not being used. This is also true for the spare tire, if your vehicle has one. Multiple conditions affect how fast this aging takes place, including temperatures, loading conditions, and inflation pressure maintenance. With proper care and maintenance tires will typically wear out before they degrade due to age. If you are unsure about the need to replace your tires as they get older, consult the tire manufacturer for more information.

## Buying New Tires

GM has developed and matched specific tires for your vehicle. The original equipment tires installed on your vehicle, when it was new, were designed to meet General Motors Tire Performance Criteria Specification (TPC spec) system rating. If you need replacement tires, GM strongly recommends that you get tires with the same TPC Spec rating. This way, your vehicle will continue to have tires that are designed to give the same performance and vehicle safety, during normal use, as the original tires.

GM's exclusive TPC Spec system considers over a dozen critical specifications that impact the overall performance of your vehicle, including brake system performance, ride and handling, traction control, and tire pressure monitoring performance. GM's TPC Spec number is molded onto the tire's sidewall near the tire size. If the tires have an all-season tread design, the TPC spec number will be followed by a MS, for mud and snow. See *Tire Sidewall Labeling on page 5-60* for additional information.

GM recommends replacing tires in sets of four. This is because uniform tread depth on all tires will help keep your vehicle performing most like it did when the tires were new. Replacing less than a full set of tires can affect the braking and handling performance of your vehicle. See *Tire Inspection and Rotation on page 5-73* for information on proper tire rotation.

**⚠ CAUTION:**

Mixing tires could cause you to lose control while driving. If you mix tires of different sizes, brands, or types (radial and bias-belted tires) the vehicle may not handle properly, and you could have a crash. Using tires of different sizes, brands, or types may also cause damage to your vehicle. Be sure to use the correct size, brand, and type of tires on your vehicle's wheels.

**⚠ CAUTION:**

If you use bias-ply tires on the vehicle, the wheel rim flanges could develop cracks after many miles of driving. A tire and/or wheel could fail suddenly, causing a crash. Use only radial-ply tires with the wheels on the vehicle.

If you must replace your vehicle's tires with those that do not have a TPC Spec number, make sure they are the same size, load range, speed rating, and construction type (radial and bias-belted tires) as your vehicle's original tires.

Vehicles equipped with a tire pressure monitoring system may give an inaccurate low-pressure warning if non-TPC spec rated tires are installed on your vehicle. Non-TPC Spec rated tires may give a low-pressure warning that is higher or lower than the proper warning level you would get with TPC Spec rated tires. See *Tire Pressure Monitor System on page 5-67*.

Your vehicle's original equipment tires are listed on the Tire and Loading Information Label. See *Loading the Vehicle on page 4-33*, for more information about the Tire and Loading Information Label and its location on your vehicle.

## Different Size Tires and Wheels

If you add wheels or tires that are a different size than your original equipment wheels and tires, this could affect the way your vehicle performs, including its braking, ride and handling characteristics, stability, and resistance to rollover. Additionally, if your vehicle has electronic systems such as anti-lock brakes, rollover airbags, traction control, and electronic stability control, the performance of these systems can be affected.

**⚠ CAUTION:**

If you add different sized wheels, your vehicle may not provide an acceptable level of performance and safety if tires not recommended for those wheels are selected. You may increase the chance that you will crash and suffer serious injury. Only use GM specific wheel and tire systems developed for your vehicle, and have them properly installed by a GM certified technician.

See *Buying New Tires on page 5-75* and *Accessories and Modifications on page 5-3* for additional information.

## Uniform Tire Quality Grading

Quality grades can be found where applicable on the tire sidewall between tread shoulder and maximum section width. For example:

### Treadwear 200 Traction AA Temperature A

The following information relates to the system developed by the United States National Highway Traffic Safety Administration (NHTSA), which grades tires by treadwear, traction, and temperature performance. This applies only to vehicles sold in the United States. The grades are molded on the sidewalls of most passenger car tires. The Uniform Tire Quality Grading (UTQG) system does not apply to deep tread, winter-type snow tires, space-saver, or temporary use spare tires, tires with nominal rim diameters of 10 to 12 inches (25 to 30 cm), or to some limited-production tires.

While the tires available on General Motors passenger cars and light trucks may vary with respect to these grades, they must also conform to federal safety requirements and additional General Motors Tire Performance Criteria (TPC) standards.

### Treadwear

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear one and a half (1.5) times as well on the government course as a tire graded 100. The relative performance of tires depends upon the actual conditions of their use, however, and may depart significantly from the norm due to variations in driving habits, service practices, and differences in road characteristics and climate.

## Traction – AA, A, B, C

The traction grades, from highest to lowest, are AA, A, B, and C. Those grades represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance.

> **⚠ WARNING:**
>
> The traction grade assigned to this tire is based on straight-ahead braking traction tests, and does not include acceleration, cornering, hydroplaning, or peak traction characteristics.

## Temperature – A, B, C

The temperature grades are A (the highest), B, and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The grade C corresponds to a level of performance which all passenger car tires must meet under the Federal Motor Vehicle Safety Standard No. 109. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law.

> **⚠ WARNING:**
>
> The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed, underinflation, or excessive loading, either separately or in combination, can cause heat buildup and possible tire failure.

## Wheel Alignment and Tire Balance

The tires and wheels on your vehicle were aligned and balanced carefully at the factory to give you the longest tire life and best overall performance. Adjustments to wheel alignment and tire balancing will not be necessary on a regular basis. However, if you notice unusual tire wear or your vehicle pulling to one side or the other, the alignment might need to be checked. If you notice your vehicle vibrating when driving on a smooth road, the tires and wheels might need to be rebalanced. See your dealer/retailer for proper diagnosis.

## Wheel Replacement

Replace any wheel that is bent, cracked, or badly rusted or corroded. If wheel nuts keep coming loose, the wheel, wheel bolts, and wheel nuts should be replaced. If the wheel leaks air, replace it (except some aluminum wheels, which can sometimes be repaired). See your dealer/retailer if any of these conditions exist.

Your dealer/retailer will know the kind of wheel you need.

Each new wheel should have the same load-carrying capacity, diameter, width, offset, and be mounted the same way as the one it replaces.

If you need to replace any of your wheels, wheel bolts, wheel nuts, or Tire Pressure Monitor System (TPMS) sensors, replace them only with new GM original equipment parts. This way, you will be sure to have the right wheel, wheel bolts, wheel nuts, and TPMS sensors for your vehicle.

**⚠ CAUTION:**

Using the wrong replacement wheels, wheel bolts, or wheel nuts on your vehicle can be dangerous. It could affect the braking and handling of your vehicle, make your tires lose air and make you lose control. You could have a collision in which you or others could be injured. Always use the correct wheel, wheel bolts, and wheel nuts for replacement.

***Notice:*** **The wrong wheel can also cause problems with bearing life, brake cooling, speedometer or odometer calibration, headlamp aim, bumper height, vehicle ground clearance, and tire or tire chain clearance to the body and chassis.**

See *Changing a Flat Tire on page 5-93* for more information.

## Used Replacement Wheels

**⚠ CAUTION:**

Putting a used wheel on the vehicle is dangerous. You cannot know how it has been used or how far it has been driven. It could fail suddenly and cause a crash. If you have to replace a wheel, use a new GM original equipment wheel.

# Tire Chains

**⚠ CAUTION:**

Do not use tire chains. There is not enough clearance. Tire chains used on a vehicle without the proper amount of clearance can cause damage to the brakes, suspension, or other vehicle parts. The area damaged by the tire chains could cause you to lose control of the vehicle and you or others may be injured in a crash. Use another type of traction device only if its manufacturer recommends it for use on the vehicle and tire size combination and road conditions. Follow that manufacturer's instructions. To help avoid damage to the vehicle, drive slowly, re-adjust or remove the device if it is contacting the vehicle, and do not spin the wheels. If you do find traction devices that will fit, install them on the rear tires.

## If a Tire Goes Flat

It is unusual for a tire to blowout while you are driving, especially if you maintain your vehicle's tires properly. If air goes out of a tire, it is much more likely to leak out slowly. But if you should ever have a blowout, here are a few tips about what to expect and what to do:

If a front tire fails, the flat tire creates a drag that pulls the vehicle toward that side. Take your foot off the accelerator pedal and grip the steering wheel firmly. Steer to maintain lane position, and then gently brake to a stop well out of the traffic lane.

A rear blowout, particularly on a curve, acts much like a skid and may require the same correction you would use in a skid. In any rear blowout remove your foot from the accelerator pedal. Get the vehicle under control by steering the way you want the vehicle to go. It may be very bumpy and noisy, but you can still steer. Gently brake to a stop, well off the road if possible.

**⚠ CAUTION:**

Lifting a vehicle and getting under it to do maintenance or repairs is dangerous without the appropriate safety equipment and training. If a jack is provided with the vehicle, it is designed only for changing a flat tire. If it is used for anything else, you or others could be badly injured or killed if the vehicle slips off the jack. If a jack is provided with the vehicle, only use it for changing a flat tire.

This vehicle may come with a jack and spare tire or a tire sealant and compressor kit. To use the jack and spare tire, see *Changing a Flat Tire on page 5-93*. To use the tire sealant and compressor kit, see *Tire Sealant and Compressor Kit on page 5-83*.

## Tire Sealant and Compressor Kit

**⚠ CAUTION:**

Idling a vehicle in an enclosed area with poor ventilation is dangerous. Engine exhaust may enter the vehicle. Engine exhaust contains Carbon Monoxide (CO) which cannot be seen or smelled. It can cause unconsciousness and even death. Never run the engine in an enclosed area that has no fresh air ventilation. For more information, see *Engine Exhaust on page 2-38*.

**⚠ CAUTION:**

Over-inflating a tire could cause the tire to rupture and you or others could be injured. Be sure to read and follow the tire sealant and compressor kit instructions and inflate the tire to its recommended pressure. Do not exceed the recommended pressure.

**⚠ CAUTION:**

Storing the tire sealant and compressor kit or other equipment in the passenger compartment of the vehicle could cause injury. In a sudden stop or collision, loose equipment could strike someone. Store the tire sealant and compressor kit in its original location.

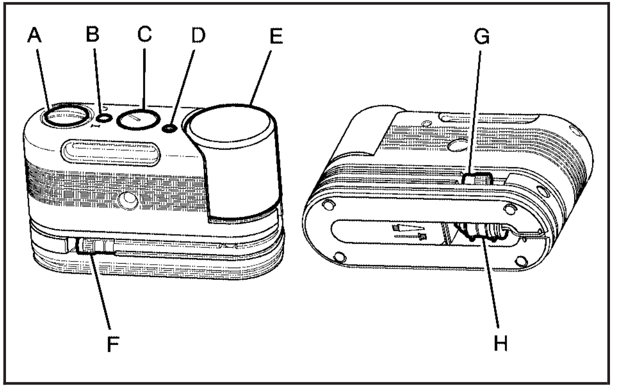
If this vehicle has a tire sealant and compressor kit, there may not be a spare tire, tire changing equipment, and on some vehicles there may not be a place to store a tire.

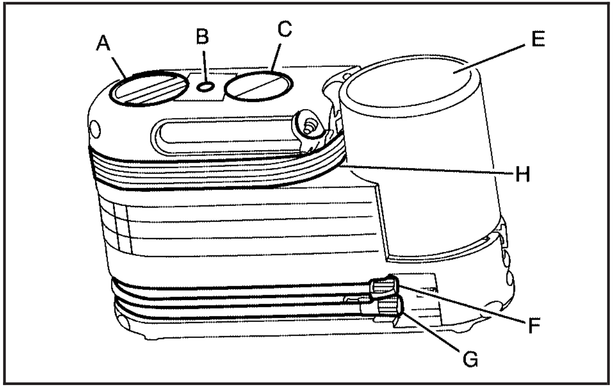
The tire sealant and compressor can be used to temporarily seal punctures up to ¼ inch (6 mm) in the tread area of the tire. It can also be used to inflate an under inflated tire.

If the tire has been separated from the wheel, has damaged sidewalls, or has a large puncture, the tire is too severely damaged for the tire sealant and compressor kit to be effective. See *Roadside Assistance Program on page 7-7*.

Read and follow all of the tire sealant and compressor kit instructions.

This vehicle may have one of the following tire sealant and compressor kits. The kit includes:






A. Selector Switch (Sealant/Air or Air Only)
B. On/Off Button
C. Pressure Gage
D. Pressure Deflation Button (If equipped)
E. Tire Sealant Canister
F. Sealant/Air Hose (Clear)
G. Air Only Hose (Black)
H. Power Plug

## Tire Sealant

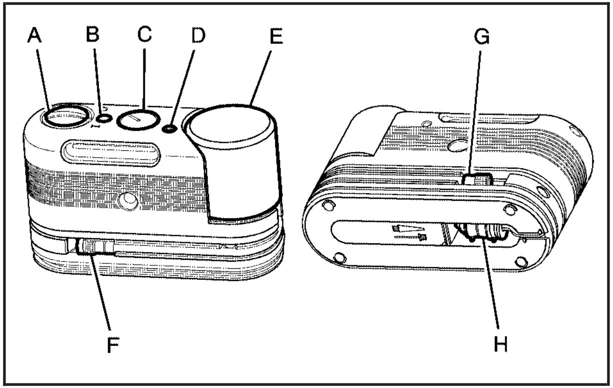
Read and follow the safe handling instructions on the label adhered to the sealant canister.

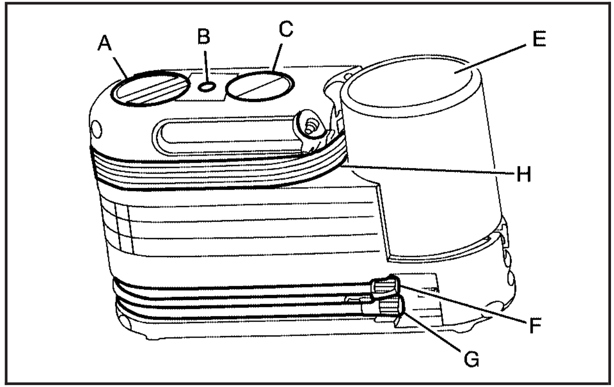
Check the tire sealant expiration date on the sealant canister. The sealant canister should be replaced before its expiration date. Replacement sealant canisters are available at your local dealer/retailer. See “Removal and Installation of the Sealant Canister” following.

There is only enough sealant to seal one tire. After usage, the sealant canister and sealant/air hose assembly must be replaced. See “Removal and Installation of the Sealant Canister” following.

# Using the Tire Sealant and Compressor Kit to Temporarily Seal and Inflate a Punctured Tire

Follow the directions closely for correct sealant usage.




When using the tire sealant and compressor kit during cold temperatures, warm the kit in a heated environment for 5 minutes. This will help to inflate the tire faster.

Always do a safety check first. See *If a Tire Goes Flat on page 5-82*. Do not remove any objects that have penetrated the tire.

1. Remove the tire sealant and compressor kit from its storage location. See *Tire Sealant and Compressor Kit Storage on page 5-92*.
2. Unwrap the sealant/air hose (F) and the power plug (H).

3. Place the kit on the ground.

   Make sure the tire valve stem is positioned close to the ground so the hose will reach it.
4. Remove the valve stem cap from the flat tire by turning it counterclockwise.
5. Attach the sealant/air hose (F) onto the tire valve stem. Turn it clockwise until it is tight.
6. Plug the power plug (H) into the accessory power outlet in the vehicle. Unplug all items from other accessory power outlets. See *Accessory Power Outlet(s) on page 3-19*.

   If the vehicle has an accessory power outlet, do not use the cigarette lighter.

   If the vehicle only has a cigarette lighter, use the cigarette lighter.

   Do not pinch the power plug cord in the door or window.
7. Start the vehicle. The vehicle must be running while using the air compressor.
8. Turn the selector switch (A) counterclockwise to the Sealant + Air position.
9. Press the on/off (B) button to turn the tire sealant and compressor kit on.

   The compressor will inject sealant and air into the tire.

   The pressure gage (C) will initially show a high pressure while the compressor pushes the sealant into the tire. Once the sealant is completely dispersed into the tire, the pressure will quickly drop and start to rise again as the tire inflates with air only.
10. Inflate the tire to the recommended inflation pressure using the pressure gage (C). The recommended inflation pressure can be found on the Tire and Loading Information label. See *Inflation - Tire Pressure on page 5-65*.

    The pressure gage (C) may read higher than the actual tire pressure while the compressor is on. Turn the compressor off to get an accurate pressure reading. The compressor may be turned on/off until the correct pressure is reached.

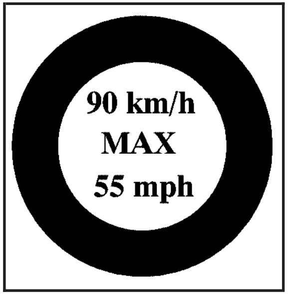
***Notice:*** **If the recommended pressure cannot be reached after approximately 25 minutes, the vehicle should not be driven farther. The tire is too severely damaged and the tire sealant and compressor kit cannot inflate the tire. Remove the power plug from the accessory power outlet and unscrew the inflating hose from the tire valve. See *Roadside Assistance Program on page 7-7*.**

11. Press the on/off button (B) to turn the tire sealant and compressor kit off.

    The tire is not sealed and will continue to leak air until the vehicle is driven and the sealant is distributed in the tire, therefore, Steps 12 through 18 must be done immediately after Step 11.

    Be careful while handling the tire sealant and compressor kit as it could be warm after usage.

12. Unplug the power plug (H) from the accessory power outlet in the vehicle.
13. Turn the sealant/air hose (F) counterclockwise to remove it from the tire valve stem.
14. Replace the tire valve stem cap.
15. Replace the sealant/air hose (F), and the power plug (H) back in their original location.




16. If the flat tire was able to inflate to the recommended inflation pressure, remove the maximum speed label from the sealant canister (E) and place it in a highly visible location.

    The label is a reminder not to exceed 55 mph (90 km/h) until the damaged tire is repaired or replaced.

17. Return the equipment to its original storage location in the vehicle.
18. Immediately drive the vehicle 5 miles (8 km) to distribute the sealant in the tire.
19. Stop at a safe location and check the tire pressure. Refer to Steps 1 through 11 under "Using the Tire Sealant and Compressor Kit without Sealant to Inflate a Tire (Not Punctured)."

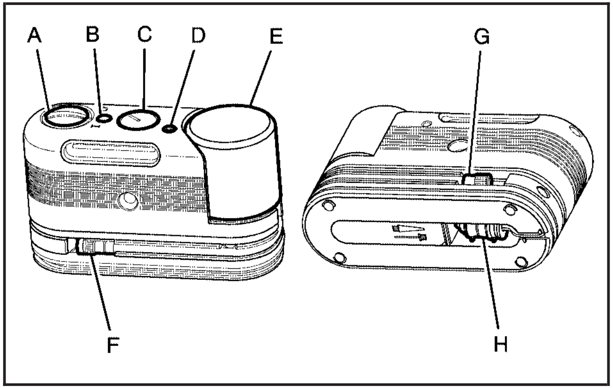
    If the tire pressure has fallen more than 10 psi (68 kPa) below the recommended inflation pressure, stop driving the vehicle. The tire is too severely damaged and the tire sealant cannot seal the tire. See *Roadside Assistance Program on page 7-7*.

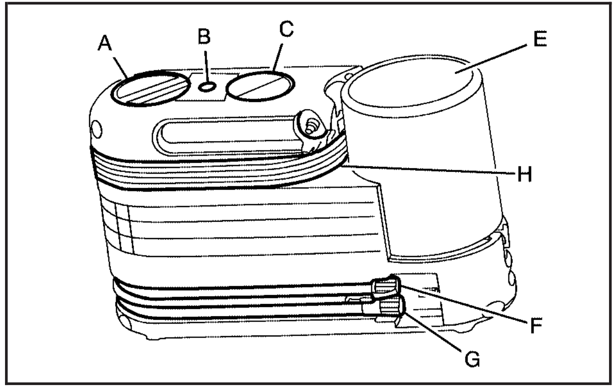
    If the tire pressure has not dropped more than 10 psi (68 kPa) from the recommended inflation pressure, inflate the tire to the recommended inflation pressure.

20. Wipe off any sealant from the wheel, tire, and vehicle.
21. Dispose of the used sealant canister (E) and sealant/air hose (F) assembly at a local dealer/ retailer or in accordance with local state codes and practices.
22. Replace it with a new canister available from your dealer/retailer.
23. After temporarily sealing a tire using the tire sealant and compressor kit, take the vehicle to an authorized dealer/retailer within a 100 miles (161 km) of driving to have the tire repaired or replaced.

## Using the Tire Sealant and Compressor Kit without Sealant to Inflate a Tire (Not Punctured)

To use the air compressor to inflate a tire with air only and not sealant:




Always do a safety check first. See *If a Tire Goes Flat on page 5-82*.

1. Remove the tire sealant and compressor kit from its storage location. See *Tire Sealant and Compressor Kit Storage on page 5-92*.
2. Unwrap the air only hose (G) and the power plug (H).
3. Place the kit on the ground.

   Make sure the tire valve stem is positioned close to the ground so the hose will reach it.

4. Remove the tire valve stem cap from the flat tire by turning it counterclockwise.
5. Attach the air only hose (G) onto the tire valve stem by turning it clockwise until it is tight.
6. Plug the power plug (H) into the accessory power outlet in the vehicle. Unplug all items from other accessory power outlets. See *Accessory Power Outlet(s) on page 3-19*.

   If the vehicle has an accessory power outlet, do not use the cigarette lighter.

   If the vehicle only has a cigarette lighter, use the cigarette lighter.

   Do not pinch the power plug cord in the door or window.
7. Start the vehicle. The vehicle must be running while using the air compressor.
8. Turn the selector switch (A) clockwise to the Air Only position.
9. Press the on/off (B) button to turn the compressor on.

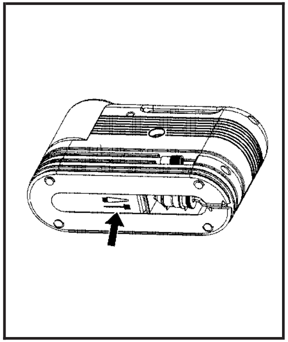
   The compressor will inflate the tire with air only.
10. Inflate the tire to the recommended inflation pressure using the pressure gage (C). The recommended inflation pressure can be found on the Tire and Loading Information label. See *Inflation - Tire Pressure on page 5-65*.

    The pressure gage (C) may read higher than the actual tire pressure while the compressor is on. Turn the compressor off to get an accurate reading. The compressor may be turned on/off until the correct pressure is reached.

    If you inflate the tire higher than the recommended pressure you can adjust the excess pressure by pressing the pressure deflation button (D), if equipped, until the proper pressure reading is reached. This option is only functional when using the air only hose (G).
11. Press the on/off button (B) to turn the tire sealant and compressor kit off.

    Be careful while handling the tire sealant and compressor kit as it could be warm after usage.

12. Unplug the power plug (H) from the accessory power outlet in the vehicle.
13. Disconnect the air only hose (G) from the tire valve stem, by turning it counterclockwise, and replace the tire valve stem cap.
14. Replace the air only hose (G) and the power plug (H) and cord back in its original location.
15. Place the equipment in the original storage location in the vehicle.

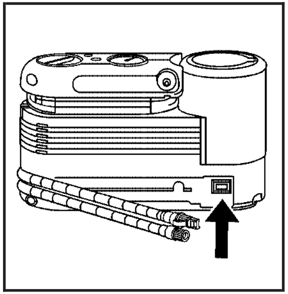


The tire sealant and compressor kit has an accessory adapter located in a compartment on the bottom of its housing that may be used to inflate air mattresses, balls, etc.

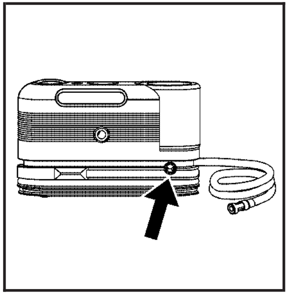
## Removal and Installation of the Sealant Canister

To remove the sealant canister:

1. Unwrap the sealant hose.



**Without Pressure Deflation Button**



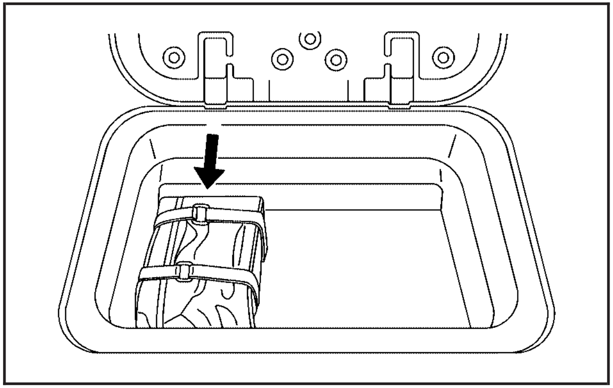
**With Pressure Deflation Button**

2. Press the canister release button.
3. Pull up and remove the canister.
4. Replace with a new canister which is available from your dealer/retailer.
5. Push the new canister into place.

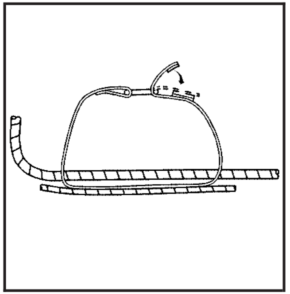
## Tire Sealant and Compressor Kit Storage

The tire sealant and compressor kit is located in the floor storage compartment at the rear of the vehicle.

1. Open the liftgate. See *Liftgate/Liftglass on page 2-13*.
2. Open the rear floor storage lid. See *Rear Floor Storage Cover on page 2-55*.



The tire sealant and compressor kit is attached to the floor with two straps.



3. Remove the straps.
4. Remove the tire sealant and compressor kit from the storage compartment.
5. Remove tire sealant and compressor kit from the storage bag.

## Changing a Flat Tire

If a tire goes flat, avoid further tire and wheel damage by driving slowly to a level place. Turn on the hazard warning flashers. See *Hazard Warning Flashers on page 3-6*.

**⚠ CAUTION:**

Changing a tire can be dangerous. The vehicle can slip off the jack and roll over or fall on you or other people. You and they could be badly injured or even killed. Find a level place to change your tire. To help prevent the vehicle from moving:

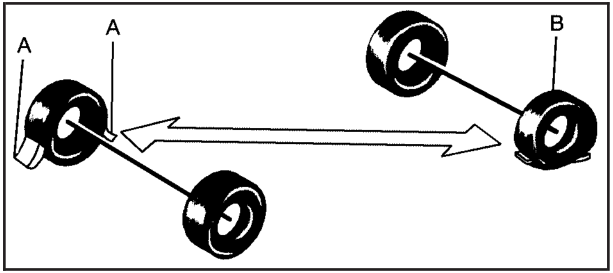
1. Set the parking brake firmly.
2. Put the shift lever in P (Park).
3. If you have a four-wheel-drive vehicle, be sure the transfer case is in a drive gear — not in Neutral.
4. Turn off the engine and do not restart while the vehicle is raised.

CAUTION: (Continued)

**CAUTION: (Continued)**

5. Do not allow passengers to remain in the vehicle.
6. Put the wheel blocks at the front and rear of the tire farthest away from the one being changed. That would be the tire on the other side, at the opposite end of the vehicle.

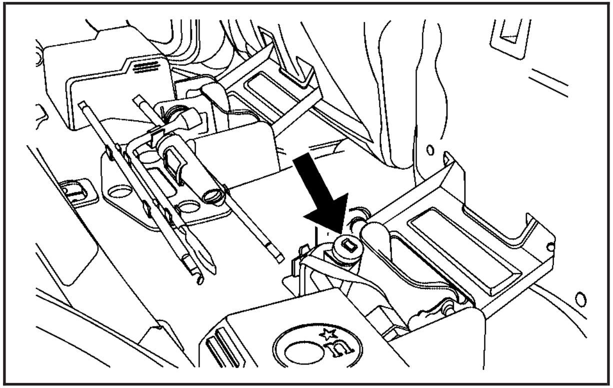
When the vehicle has a flat tire (B), use the following example as a guide to assist you in the placement of wheel blocks (A).




A. Wheel Block
B. Flat Tire

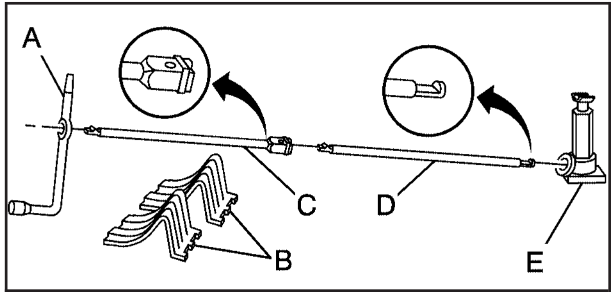
The following information explains how to use the jack and change a tire.

## Removing the Spare Tire and Tools



The jacking equipment needed to remove the spare tire is stored under the rear seat. To release the jack from its holder, turn the knob on the jack counterclockwise to lower the jack head. See *Rear Seat Operation on page 1-11* for more information.

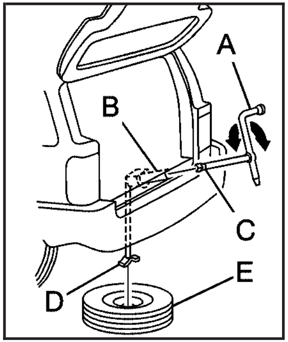
The tools you will be using include:




A. Wheel Wrench
B. Wheel Blocks
C. Extension(s) (Socket End)
D. Handle (Jack End)
E. Jack

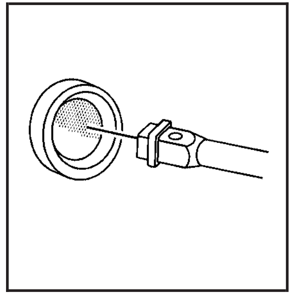
To remove the underbody-mounted spare from your vehicle:

***Notice:*** **If you remove or restow a tire from/to the storage position under the vehicle while it is supported by a jack, you could damage the tire and/or your vehicle. Always remove or restow a tire when the vehicle is on the ground.**



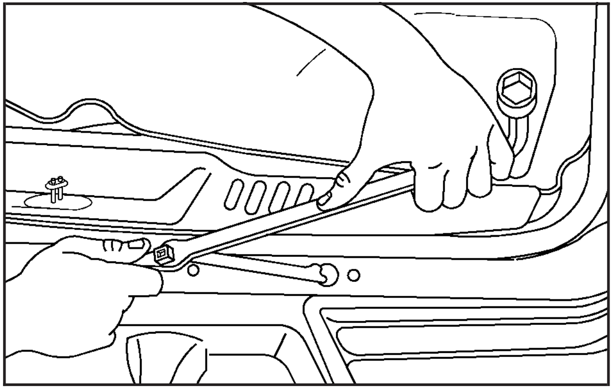

A. Wheel Wrench
B. Hoist Shaft
C. Extension
D. Retainer
E. Spare or Flat Tire (Valve Stem Pointed Up)

1. Open the liftgate. See *Liftgate/Liftglass on page 2-13* for more information.
2. Attach the wheel wrench (A) to the extension (C).



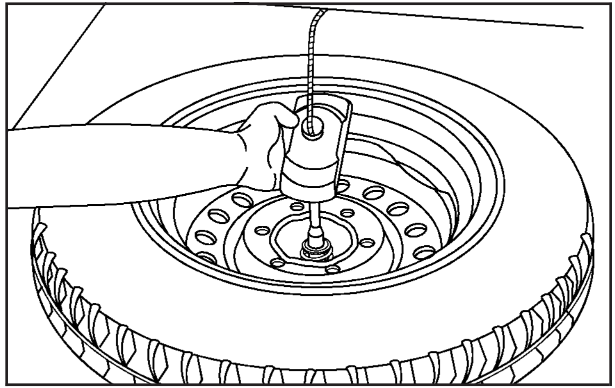
3. Insert the socket end of the extension (C) on a 45 degree angle downward into the hoist drive shaft hole.

It is exposed when the rear gate is open and is just above the rear bumper. Be sure the socket end of the extension (C) connects to the hoist shaft.



4. Turn the wheel wrench counterclockwise to lower the spare tire. Keep turning the wheel wrench until the spare tire can be pulled out from under the vehicle.

   If the spare tire does not lower to the ground, the secondary latch is engaged causing the tire not to lower. See *Secondary Latch System on page 5-103* for more information.



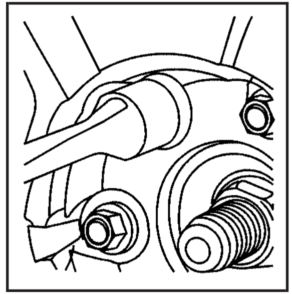
5. Tilt the retainer at the end of the cable when the tire has been completely lowered, and pull it through the wheel opening.
6. Pull the tire out from under the vehicle.

***Notice:*** **If you drive away before the spare tire or secondary latch system cable has been reinstalled, you could damage your vehicle. Always reinstall this cable before driving your vehicle.**

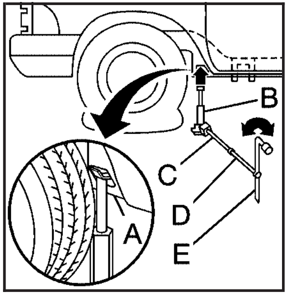
7. Put the spare tire near the flat tire.

## Removing the Flat Tire and Installing the Spare Tire

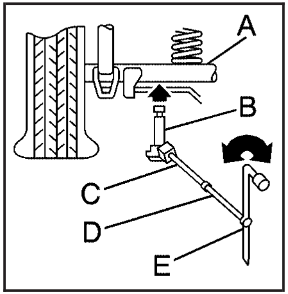
1. Do a safety check before proceeding. See *Changing a Flat Tire on page 5-93* for more information.
2. Use the flat end of the wheel wrench to carefully pry off the center cap.



3. Using the wheel wrench, loosen all the wheel nuts by turning the nuts one turn counterclockwise. Do not remove them yet.
4. Turn the jack adjusting knob clockwise by hand to raise the jack lift head.
5. Place the handle, extension, and wheel wrench onto the jack.




**Front Position**




**Rear Position**

A. Front Frame/
   Rear Axle
B. Jack
C. Handle
D. Extension(s)
E. Wheel Wrench

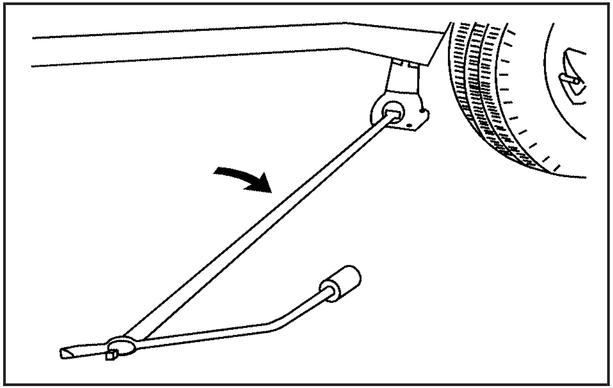
6. Place the jack in the appropriate position nearest the flat tire.

## ⚠ CAUTION:

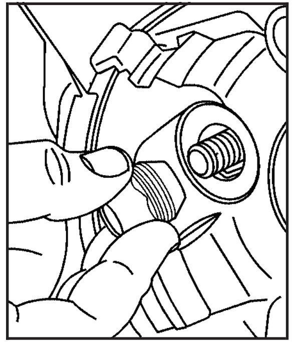
Getting under a vehicle when it is jacked up is dangerous. If the vehicle slips off the jack, you could be badly injured or killed. Never get under a vehicle when it is supported only by a jack.

## ⚠ CAUTION:

Raising your vehicle with the jack improperly positioned can damage the vehicle and even make the vehicle fall. To help avoid personal injury and vehicle damage, be sure to fit the jack lift head into the proper location before raising the vehicle.



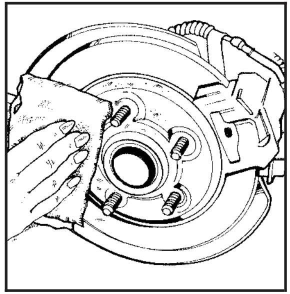
7. Raise the vehicle by turning the jack handle clockwise. Raise the vehicle far enough off the ground so there is enough room for the spare tire to fit.



8. Remove all the wheel nuts and the flat tire.

## ⚠ CAUTION:

Rust or dirt on a wheel, or on the parts to which it is fastened, can make wheel nuts become loose after time. The wheel could come off and cause an accident. When changing a wheel, remove any rust or dirt from places where the wheel attaches to the vehicle. In an emergency, use a cloth or a paper towel to do this; but be sure to use a scraper or wire brush later, if needed, to get all the rust or dirt off. See *Changing a Flat Tire on page 5-93*.



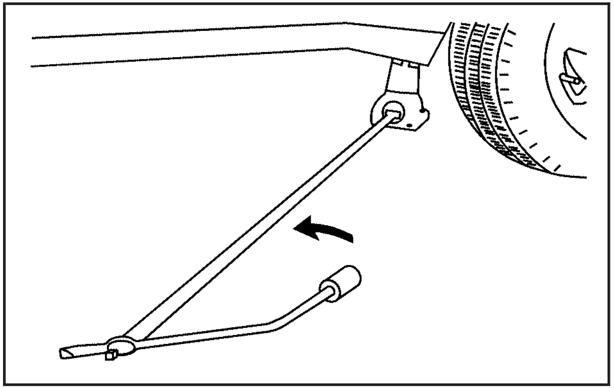
9. Remove any rust or dirt from the wheel bolts, mounting surfaces and spare wheel.

10. Place the spare tire on the wheel-mounting surface.

## ⚠ CAUTION:

Never use oil or grease on bolts or nuts because the nuts might come loose. The vehicle's wheel could fall off, causing a crash.

11. Put the nuts on by hand. Make sure the cone shaped end is toward the wheel.
12. Tighten each nut by hand until the wheel is held against the hub. If a nut cannot be turned by hand, use the wheel wrench and see your dealer as soon as possible.

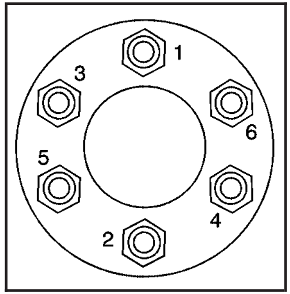


13. Lower the vehicle by turning the jack handle counterclockwise. Lower the jack completely.

**⚠ CAUTION:**

Incorrect wheel nuts or improperly tightened wheel nuts can cause the wheel to come loose and even come off. This could lead to an accident. Be sure to use the correct wheel nuts. If you have to replace them, be sure to get new original equipment wheel nuts. Stop somewhere as soon as you can and have the nuts tightened with a torque wrench to the proper torque specification. See *Capacities and Specifications on page 5-125* for wheel nut torque specification.

***Notice:*** **Improperly tightened wheel nuts can lead to brake pulsation and rotor damage. To avoid expensive brake repairs, evenly tighten the wheel nuts in the proper sequence and to the proper torque specification. See *Capacities and Specifications on page 5-125* for the wheel nut torque specification.**




14. Use the wrench to tighten the wheel nuts firmly in a crisscross sequence as shown.

## Secondary Latch System

This vehicle may have an underbody-mounted tire hoist assembly equipped with a secondary latch system. It is designed to stop the spare tire, if the vehicle has one, from suddenly falling off the vehicle if the cable holding the spare tire is damaged. For the secondary latch to work, the tire must be stored with the valve stem pointing up. See *Storing a Flat or Spare Tire and Tools on page 5-106* for instructions on storing the spare or flat tire correctly.

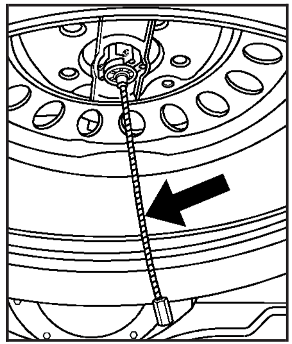
**⚠ CAUTION:**

Before beginning this procedure read all the instructions. Failure to read and follow the instructions could damage the hoist assembly and you and others could get hurt. Read and follow the instructions listed next.

**⚠ CAUTION:**

Someone standing too close during the procedure could be injured by the jack. If the spare tire does not slide off the jack completely, make sure no one is behind you or on either side of you as you pull the jack out from the under spare.

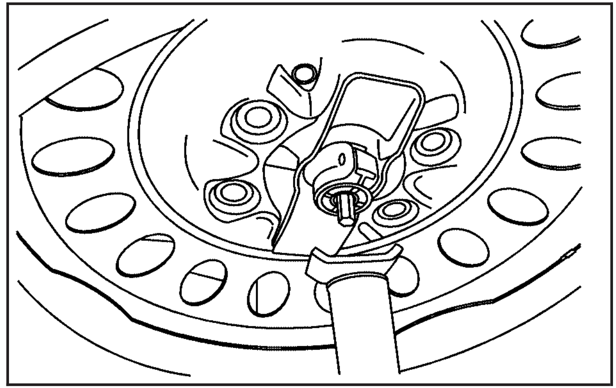
To release the spare tire from the secondary latch:



1. Check under the vehicle to see if the cable is visible. If it is not visible, proceed to Step 6.

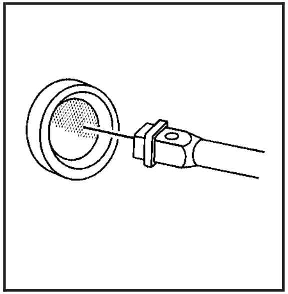
2. If visible, first try to tighten the cable by turning the wheel wrench clockwise until you hear two clicks or feel it skip twice. You cannot overtighten the cable.
3. Loosen the cable by turning the wheel wrench counterclockwise three or four turns.
4. Repeat this procedure at least two times.

   If the spare tire lowers to the ground, continue with Step 2 of *Removing the Spare Tire and Tools on page 5-94*.
5. Turn the wrench counterclockwise until approximately 6 inches (15 cm) of cable is exposed.

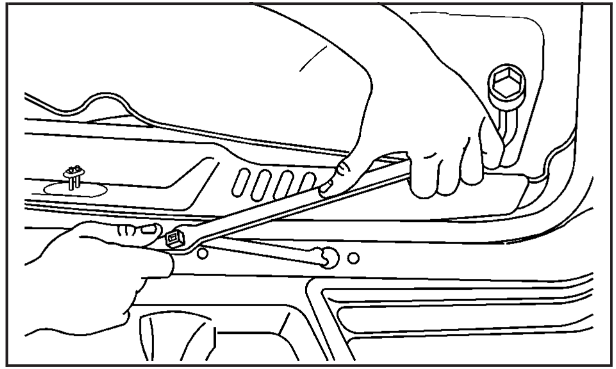


6. Attach the jack handle, extension(s) and the wheel wrench to the jack and place it under the vehicle towards the front of the rear bumper. Position the center lift point of the jack under the center of the spare tire.
7. Turn the wrench clockwise to raise the jack until it lifts the end fitting.
8. Continue raising the jack until the spare tire stops moving upward and is held firmly in place. The secondary latch has released and the spare tire is balancing on the jack.

9. Lower the jack by turning the wheel wrench counterclockwise. Keep lowering the jack until the spare tire slides off the jack or is hanging by the cable.
10. Disconnect the jack handle from the jack and carefully remove the jack. Use one hand to push against the spare while firmly pulling the jack out from under the spare tire with the other hand.



11. If the spare tire is hanging from the cable, insert the socket end of the extension into the hoist shaft hole on a 45 degree angle downward.
12. Be sure that the socket end of the extension connects to the hoist shaft.



Turn the wheel wrench counterclockwise to lower the spare the rest of the way.

13. Tilt the retainer at the end of the cable and pull it through the wheel opening. Pull the tire out from under the vehicle.

***Notice:*** **If you drive away before the spare tire or secondary latch system cable has been reinstalled, you could damage your vehicle. Always reinstall this cable before driving your vehicle.**

14. Turn the wheel wrench clockwise to raise the cable back up if the cable is hanging under the vehicle.

Have the hoist assembly inspected as soon as you can. You will not be able to store a spare tire using the hoist assembly until it has been repaired or replaced.

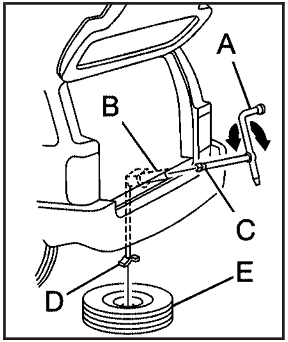
## Storing a Flat or Spare Tire and Tools

> ⚠ **CAUTION:**
>
> Storing a jack, a tire, or other equipment in the passenger compartment of the vehicle could cause injury. In a sudden stop or collision, loose equipment could strike someone. Store all these in the proper place.

> ⚠ **CAUTION:**
>
> The underbody-mounted spare tire needs to be stored with the valve stem pointing up. If the spare tire is stored with the valve stem pointing downward, its secondary latch will not work properly and the spare tire could loosen and suddenly fall from your vehicle. If this happened when your vehicle was being driven, the tire might contact a person or another vehicle, causing injury and, of course, damage to itself as well. Be sure the underbody-mounted spare tire is stored with its valve stem pointing up.

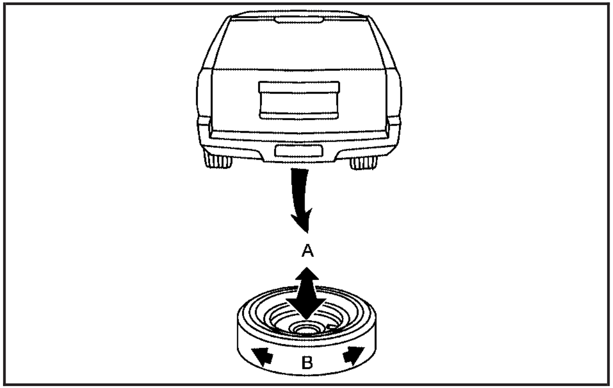
***Notice:*** **An aluminum wheel with a flat tire should always be stored under the vehicle with the hoist. However, storing it that way for an extended period could damage the wheel. To avoid this, always stow the wheel properly with the valve stem pointing up and have the wheel repaired as soon as possible.**

Follow this diagram to store the underbody-mounted flat or spare tire.

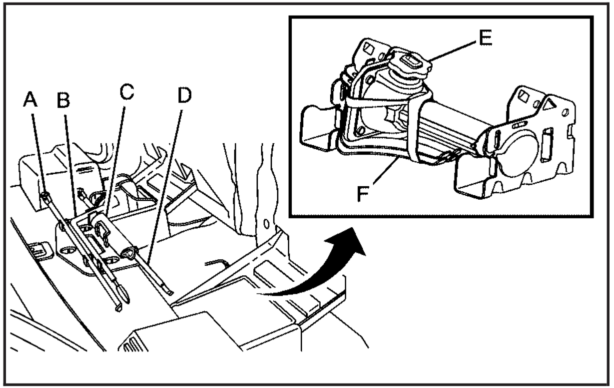



A. Wheel Wrench
B. Hoist Shaft
C. Extension
D. Retainer
E. Spare or Flat Tire (Valve Stem Pointed Up)

1. Put the tire (E) on the ground at the rear of the vehicle.
2. Remove the hubcap, if the vehicle has one, from the flat tire by tapping the backside of the hubcap with the wheel wrench (A). Store in a safe location until the flat tire is repaired. Once the tire is repaired, replace the hubcap.
3. Make sure the valve stem is pointed up and to the rear.
4. Pull the retainer (D) through the wheel.
5. Put the socket end of the extension (C) through the hole just above the rear bumper at a 45 degree angle downward. Connect the socket end of the extension to the hoist shaft (B).
6. Raise the tire fully against the underside of the vehicle. Continue turning the wheel wrench (A) clockwise until you hear two clicks or feel it skip twice. This indicates that the tire is secure and the cable is tight. The spare tire hoist cannot be overtightened.




7. Make sure the tire is stored securely. Push, pull (A), and then try to turn (B) the tire. If the tire moves, use the wheel wrench and socket end of the extension to tighten the cable.
8. Return the equipment to the proper location in the vehicle as shown next.




A. Handle
B. Wheel Wrench
C. Instruction Label
D. Extension(s)
E. Knob
F. Wheel Blocks and Jack

1. Attach the handle (A), wheel wrench (B), and extension (D) in the slots provided.
2. Roll up the instruction label (C) and return to the slot in the tool kit.
3. Assemble the wheel blocks (F) to the jack.
4. Turn the knob (E) on the jack clockwise to raise the jack head.
5. Return the rear seat to its proper position.

## Spare Tire

This vehicle may have a spare tire. Although the spare tire was fully inflated when the vehicle was new, it can lose air after a time. Check the inflation pressure regularly. See *Inflation - Tire Pressure on page 5-65* and *Loading the Vehicle on page 4-33* for information regarding proper tire inflation and loading your vehicle. For instruction on how to remove, install or store a spare tire, see *Removing the Flat Tire and Installing the Spare Tire on page 5-97* and *Storing a Flat or Spare Tire and Tools on page 5-106*.

After installing the spare tire on your vehicle, you should stop as soon as possible and make sure the spare is correctly inflated. The spare tire is made to perform well at speeds up to 70 mph (112 km/h) at the recommended inflation pressure, so you can finish your trip.

Have the damaged or flat road tire repaired or replaced as soon as you can and installed back onto your vehicle. This way, a spare tire will be available in case you need it again. Do not mix tires and wheels of different sizes, because they will not fit. Keep your spare tire and its wheel together.

# Appearance Care

## Interior Cleaning

The vehicle's interior will continue to look its best if it is cleaned often. Although not always visible, dust and dirt can accumulate on the upholstery. Dirt can damage carpet, fabric, leather, and plastic surfaces. Regular vacuuming is recommended to remove particles from the upholstery. It is important to keep the upholstery from becoming and remaining heavily soiled. Soils should be removed as quickly as possible. The vehicle's interior may experience extremes of heat that could cause stains to set rapidly.

Lighter colored interiors may require more frequent cleaning. Use care because newspapers and garments that transfer color to home furnishings may also transfer color to the vehicle's interior.

When cleaning the vehicle's interior, only use cleaners specifically designed for the surfaces being cleaned. Permanent damage may result from using cleaners on surfaces for which they were not intended. Use glass cleaner only on glass. Remove any accidental over-spray from other surfaces immediately. To prevent over-spray, apply cleaner directly to the cleaning cloth.

***Notice:*** **Using abrasive cleaners when cleaning glass surfaces on the vehicle, could scratch the glass and/or cause damage to the rear window defogger. When cleaning the glass on the vehicle, use only a soft cloth and glass cleaner.**

Many cleaners contain solvents that may become concentrated in the vehicle's breathing space. Before using cleaners, read and adhere to all safety instructions on the label. While cleaning the vehicle's interior, maintain adequate ventilation by opening the vehicle's doors and windows.

Dust may be removed from small buttons and knobs using a small brush with soft bristles.

Products that remove odors from the vehicle's upholstery and clean the vehicle's glass can be obtained from your dealer/retailer.

Do not clean the vehicle using:

- A knife or any other sharp object to remove a soil from any interior surface.
- A stiff brush. It can cause damage to the vehicle's interior surfaces.
- Heavy pressure or aggressive rubbing with a cleaning cloth. Use of heavy pressure can damage the interior and does not improve the effectiveness of soil removal.
- Laundry detergents or dishwashing soaps with degreasers can leave residue that streaks and attracts dirt. For liquid cleaners, about 20 drops per gallon (3.78 L) of water is a good guide. Use only mild, neutral-pH soaps.
- Too much cleaner that saturates the upholstery.
- Organic solvents such as naptha, alcohol, etc. that can damage the vehicle's interior.

## Fabric/Carpet

Use a vacuum cleaner with a soft brush attachment frequently to remove dust and loose dirt. A canister vacuum with a beater bar in the nozzle may only be used on floor carpet and carpeted floor mats. For any soil, always try to remove it first with plain water or club soda. Before cleaning, gently remove as much of the soil as possible using one of the following techniques:

- For liquids: gently blot the remaining soil with a paper towel. Allow the soil to absorb into the paper towel until no more can be removed.
- For solid dry soils: remove as much as possible and then vacuum.

To clean:

1. Saturate a lint-free, clean white cloth with water or club soda.
2. Wring the cloth to remove excess moisture.
3. Start on the outside edge of the soil and gently rub toward the center. Continue cleaning, using a clean area of the cloth each time it becomes soiled.
4. Continue to gently rub the soiled area until the cleaning cloth remains clean.
5. If the soil is not completely removed, use a mild soap solution and repeat the cleaning process that was used with plain water.

If any of the soil remains, a commercial fabric cleaner or spot lifter may be necessary. When a commercial upholstery cleaner or spot lifter is to be used, test a small hidden area for colorfastness first. If the locally cleaned area gives any impression that a ring formation may result, clean the entire surface.

After the cleaning process has been completed, a paper towel can be used to blot excess moisture from the fabric or carpet.

## Leather

A soft cloth dampened with water can be used to remove dust. If a more thorough cleaning is necessary, a soft cloth dampened with a mild soap solution can be used. Allow the leather to dry naturally. Do not use heat to dry. Never use steam to clean leather. Never use spot lifters or spot removers on leather. Many commercial leather cleaners and coatings that are sold to preserve and protect leather may permanently change the appearance and feel of the leather and are not recommended. Do not use silicone or wax-based products, or those containing organic solvents to clean the vehicle's interior because they can alter the appearance by increasing the gloss in a non-uniform manner. Never use shoe polish on leather.

## Instrument Panel, Vinyl, and Other Plastic Surfaces

A soft cloth dampened with water may be used to remove dust. If a more thorough cleaning is necessary, a clean soft cloth dampened with a mild soap solution can be used to gently remove dust and dirt. Never use spot lifters or removers on plastic surfaces. Many commercial cleaners and coatings that are sold to preserve and protect soft plastic surfaces may permanently change the appearance and feel of the interior and are not recommended. Do not use silicone or wax-based products, or those containing organic solvents to clean the vehicle's interior because they can alter the appearance by increasing the gloss in a non-uniform manner.

Some commercial products may increase gloss on the instrument panel. The increase in gloss may cause annoying reflections in the windshield and even make it difficult to see through the windshield under certain conditions.

## Care of Safety Belts

Keep belts clean and dry.

**⚠ CAUTION:**

Do not bleach or dye safety belts. It may severely weaken them. In a crash, they might not be able to provide adequate protection. Clean safety belts only with mild soap and lukewarm water.

## Weatherstrips

Silicone grease on weatherstrips will make them last longer, seal better, and not stick or squeak. Apply silicone grease with a clean cloth. During very cold, damp weather frequent application may be required. See *Recommended Fluids and Lubricants on page 6-12*.

## Washing Your Vehicle

The best way to preserve the vehicle's finish is to keep it clean by washing it often.

***Notice:*** **Certain cleaners contain chemicals that can damage the emblems or nameplates on the vehicle. Check the cleaning product label. If it states that it should not be used on plastic parts, do not use it on the vehicle or damage may occur and it would not be covered by the warranty.**

Do not wash the vehicle in direct sunlight. Use a car washing soap. Do not use cleaning agents that are petroleum based or that contain acid or abrasives, as they can damage the paint, metal or plastic on the vehicle. Approved cleaning products can be obtained from your dealer/retailer. Follow all manufacturers' directions regarding correct product usage, necessary safety precautions and appropriate disposal of any vehicle care product.

Rinse the vehicle well, before washing and after to remove all cleaning agents completely. If they are allowed to dry on the surface, they could stain.

Dry the finish with a soft, clean chamois or an all-cotton towel to avoid surface scratches and water spotting.

High pressure car washes may cause water to enter the vehicle. Avoid using high pressure washes closer than 12 inches (30 cm) to the surface of the vehicle. Use of power washers exceeding 1,200 psi (8 274 kPa) can result in damage or removal of paint and decals.

## Cleaning Exterior Lamps/Lenses

Use only lukewarm or cold water, a soft cloth and a car washing soap to clean exterior lamps and lenses. Follow instructions under *Washing Your Vehicle on page 5-113*.

# Finish Care

Occasional waxing or mild polishing of the vehicle by hand may be necessary to remove residue from the paint finish. Approved cleaning products can be obtained from your dealer/retailer.

If the vehicle has a basecoat/clearcoat paint finish, the clearcoat gives more depth and gloss to the colored basecoat. Always use waxes and polishes that are non-abrasive and made for a basecoat/clearcoat paint finish.

***Notice:*** **Machine compounding or aggressive polishing on a basecoat/clearcoat paint finish may damage it. Use only non-abrasive waxes and polishes that are made for a basecoat/clearcoat paint finish on the vehicle.**

Foreign materials such as calcium chloride and other salts, ice melting agents, road oil and tar, tree sap, bird droppings, chemicals from industrial chimneys, etc., can damage the vehicle's finish if they remain on painted surfaces. Wash the vehicle as soon as possible. If necessary, use non-abrasive cleaners that are marked safe for painted surfaces to remove foreign matter.

Exterior painted surfaces are subject to aging, weather and chemical fallout that can take their toll over a period of years. To help keep the paint finish looking new, keep the vehicle garaged or covered whenever possible.

## Protecting Exterior Bright Metal Parts

Bright metal parts should be cleaned regularly to keep their luster. Washing with water is all that is usually needed. However, chrome polish may be used on chrome or stainless steel trim, if necessary.

Use special care with aluminum trim. To avoid damaging protective trim, never use auto or chrome polish, steam or caustic soap to clean aluminum. A coating of wax, rubbed to high polish, is recommended for all bright metal parts.

# Windshield, Backglass, and Wiper Blades

Clean the outside of the windshield and backglass with glass cleaner.

Clean the rubber blades using a lint free cloth or paper towel soaked with windshield washer fluid or a mild detergent. Wash the windshield thoroughly when you clean the blades. Bugs, road grime, sap and a buildup of vehicle wash/wax treatments may cause wiper streaking. Replace the wiper blades if they are worn or damaged.

Wipers can be damaged by:

- Extreme dusty conditions
- Sand and salt
- Heat and sun
- Snow and ice, without proper removal

## Aluminum Wheels

***Notice:*** **Using strong soaps, chemicals, abrasive polishes, cleaners, brushes, or cleaners that contain acid on aluminum or chrome-plated wheels, could damage the surface of the wheel(s). The repairs would not be covered by the warranty. Use only approved cleaners on aluminum or chrome-plated wheels.**

Keep the wheels clean using a soft clean cloth with mild soap and water. Rinse with clean water. After rinsing thoroughly, dry with a soft clean towel. A wax may then be applied.

***Notice:*** **Using chrome polish on aluminum wheels could damage the wheels. The repairs would not be covered by the warranty. Use chrome polish on chrome wheels only.**

The surface of these wheels is similar to the painted surface of the vehicle. Do not use strong soaps, chemicals, abrasive polishes, abrasive cleaners, cleaners with acid, or abrasive cleaning brushes on them because the surface could be damaged. Do not use chrome polish on aluminum wheels.

***Notice:*** **Driving the vehicle through an automatic car wash that has silicone carbide tire cleaning brushes, could damage the aluminum or chrome-plated wheels. The repairs would not be covered by the warranty. Never drive a vehicle equipped with aluminum or chrome-plated wheels through an automatic car wash that uses silicone carbide tire cleaning brushes.**

## Tires

To clean the tires, use a stiff brush with tire cleaner.

***Notice:*** **Using petroleum-based tire dressing products on the vehicle may damage the paint finish and/or tires. When applying a tire dressing, always wipe off any overspray from all painted surfaces on the vehicle.**

## Sheet Metal Damage

If the vehicle is damaged and requires sheet metal repair or replacement, make sure the body repair shop applies anti-corrosion material to parts repaired or replaced to restore corrosion protection.

Original manufacturer replacement parts will provide the corrosion protection while maintaining the vehicle warranty.

## Finish Damage

Any stone chips, fractures or deep scratches in the finish should be repaired right away. Bare metal will corrode quickly and may develop into major repair expense.

Minor chips and scratches can be repaired with touch-up materials available from your dealer/retailer. Larger areas of finish damage can be corrected in your dealer's/retailer's body and paint shop.

## Underbody Maintenance

Chemicals used for ice and snow removal and dust control can collect on the underbody. If these are not removed, corrosion and rust can develop on the underbody parts such as fuel lines, frame, floor pan, and exhaust system even though they have corrosion protection.

At least every spring, flush these materials from the underbody with plain water. Clean any areas where mud and debris can collect. Dirt packed in close areas of the frame should be loosened before being flushed. Your dealer/retailer or an underbody car washing system can do this.

## Chemical Paint Spotting

Some weather and atmospheric conditions can create a chemical fallout. Airborne pollutants can fall upon and attack painted surfaces on the vehicle. This damage can take two forms: blotchy, ring-shaped discolorations, and small, irregular dark spots etched into the paint surface.

Although no defect in the paint job causes this, we will repair, at no charge to the owner, the surfaces of new vehicles damaged by this fallout condition within 12 months or 12,000 miles (20 000 km) of purchase, whichever occurs first.

# Vehicle Identification

## Vehicle Identification Number (VIN)

This is the legal identifier for your vehicle. It appears on a plate in the front corner of the instrument panel, on the driver side. It can be seen through the windshield from outside the vehicle. The VIN also appears on the Certification/Tire and Service Parts labels and the certificates of title and registration.

## Engine Identification

The eighth character in the VIN is the engine code. This code helps identify the vehicle's engine, specifications, and replacement parts. See "Engine Specifications" under *Capacities and Specifications on page 5-125* for your vehicle's engine code.

## Service Parts Identification Label

This label is on the inside of the glove box.
It is very helpful if you ever need to order parts.
The label has the following information:

- Vehicle Identification Number (VIN)
- Model designation
- Paint information
- Production options and special equipment

Do not remove this label from the vehicle.

# Electrical System

## Add-On Electrical Equipment

***Notice:*** **Do not add anything electrical to the vehicle unless you check with your dealer/retailer first. Some electrical equipment can damage the vehicle and the damage would not be covered by the vehicle's warranty. Some add-on electrical equipment can keep other components from working as they should.**

Add-on equipment can drain the vehicle battery, even if the vehicle is not operating.

The vehicle has an airbag system. Before attempting to add anything electrical to the vehicle, see *Servicing Your Airbag-Equipped Vehicle on page 1-68*.

## Headlamps

The headlamp wiring is protected by four fuses. An electrical overload will cause a lamp to go on and off. If this happens, have the headlamp wiring checked right away.

## Windshield Wiper Fuses

The windshield wiper motor is protected by a circuit breaker and a fuse. If the motor overheats due to heavy snow, etc., the wiper will stop until the motor cools. If the overload is caused by some electrical problem, have it fixed.

## Power Windows and Other Power Options

Circuit breakers in the fuse block protect the power windows and other power accessories. When the current load is too heavy, the circuit breaker opens and closes, protecting the circuit until the problem is fixed or goes away.

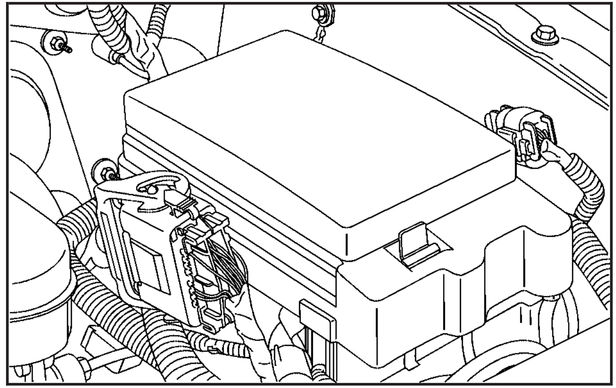
# Fuses and Circuit Breakers

The wiring circuits in the vehicle are protected from short circuits by a combination of fuses and circuit breakers. This greatly reduces the chance of fires caused by electrical problems.

Look at the silver-colored band inside the fuse. If the band is broken or melted, replace the fuse. Be sure you replace a bad fuse with a new one of the identical size and rating.

If you ever have a problem on the road and don't have a spare fuse, you can borrow one that has the same amperage. Just pick some feature of the vehicle that you can get along without — like the radio or cigarette lighter — and use its fuse, if it is the correct amperage. Replace it as soon as you can.

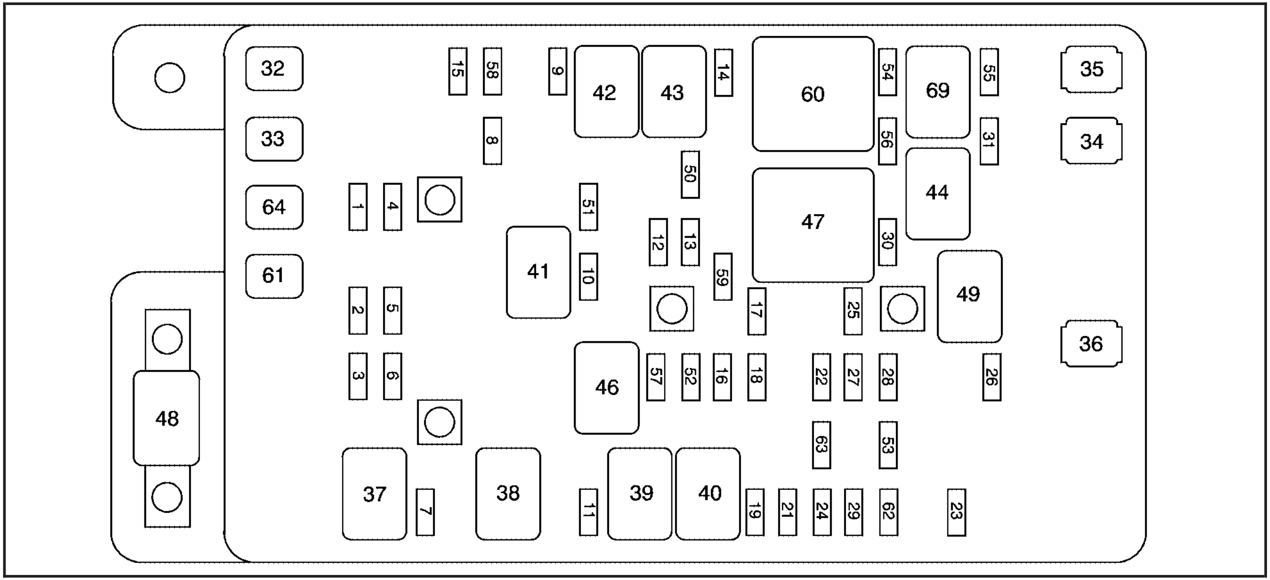
# Engine Compartment Fuse Block



The fuse block is located under the hood in the engine compartment on the driver side of the vehicle. See *Engine Compartment Overview on page 5-12* for more information on location.

Remove the primary cover by pressing the two locking tabs. Remove the secondary cover by snapping off while lifting. To reinstall the fuse panel cover, reverse the sequence.

***Notice:*** **Spilling liquid on any electrical components on the vehicle may damage it. Always keep the covers on any electrical component.**




| Fuses | Usage |
|---|---|
| 1 | Electrically-Controlled Air Suspension |
| 2 | Passenger Side High-Beam Headlamp |
| 3 | Passenger Side Low-Beam Headlamp |
| 4 | Back-Up Trailer Lamps |
| 5 | Driver Side High-Beam Headlamp |

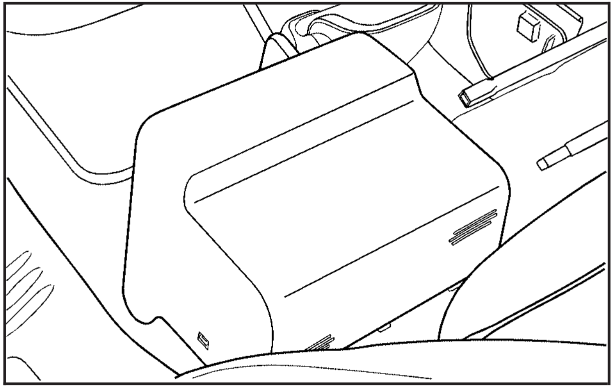
| Fuses | Usage |
|---|---|
| 6 | Driver Side Low-Beam Headlamp |
| 7 | Windshield Wiper |
| 8 | Active Transfer Case |
| 9 | Windshield Washer |
| 10 | Powertrain Control Module B |
| 11 | Fog Lamps |
| 12 | Stoplamp |
| 13 | Cigarette Lighter |
| 14 | Ignition Coils |
| 15 | Transmission Control Module Canister |
| 16 | Truck Body Controller, Ignition 1 |
| 17 | Crank |
| 18 | Airbag |
| 19 | Trailer Electric Brake |
| 21 | Horn |
| 22 | Ignition E |
| 23 | Electronic Throttle Control |
| 24 | Instrument Panel Cluster, Driver Information Center |
| 25 | Brake Transmission Shift Interlock |
| 26 | Engine 1 |
| 27 | Backup |

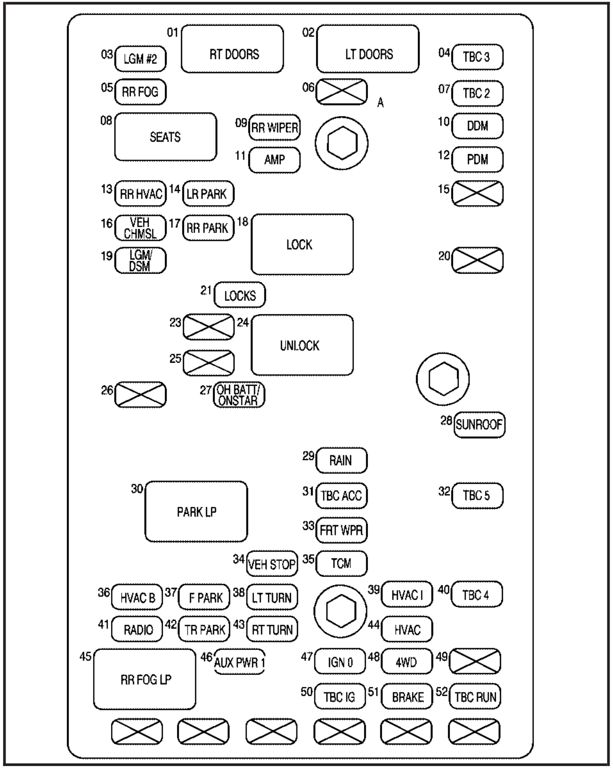
| Fuses | Usage |
|---|---|
| 28 | Engine Control Module 1 |
| 29 | Engine Control Module |
| 30 | Air Conditioning |
| 31 | Injector A |
| 32 | Trailer |
| 33 | Antilock Brakes (ABS) |
| 34 | Ignition A |
| 35 | Blower |
| 36 | Ignition B |
| 50 | Passenger Side Trailer Turn |
| 51 | Driver Side Trailer Turn |
| 52 | Hazard Flashers |
| 53 | Transmission |
| 54 | Oxygen Sensor B |
| 55 | Oxygen Sensor A |
| 56 | Injector B |
| 57 | Headlamp Driver Module |
| 58 | Body Controller 1 |
| 59 | Electric Adjustable Pedals |
| 61 | Vehicle Stability Enhancement System |
| 62 | Regulated Voltage Control |
| 63 | Air Solenoid |
| 64 | Air Pump |

| Relays | Usage |
|---|---|
| 37 | Headlamp Wiper |
| 38 | Rear Window Wiper/Washer |
| 39 | Fog Lamps |
| 40 | Horn |
| 41 | Fuel Pump |
| 42 | Windshield Washer |
| 43 | High-Beam Headlamp |
| 44 | Air Conditioning |
| 46 | Headlamp Driver Module |
| 47 | Starter |
| 49 | Electric Adjustable Pedal |
| 60 | Powertrain |
| 69 | Air Solenoid |

| Miscellaneous | Usage |
|---|---|
| 48 | Instrument Panel Battery |

## Rear Underseat Fuse Block






| Fuses | Usage |
|---|---|
| 01 | Passenger Door Control Module |
| 02 | Driver Door Control Module |
| 03 | Liftgate Module 2 |
| 04 | Truck Body Controller 3 |
| 05 | Rear Fog Lamps |
| 06 | Blank |
| 07 | Truck Body Controller 2 |
| 08 | Power Seats |
| 09 | Rear Wiper |
| 10 | Driver Door Module |
| 11 | Amplifier |
| 12 | Passenger Door Module |
| 13 | Rear Climate Controls |
| 14 | Driver Side Rear Parking Lamps |
| 15 | Blank |
| 16 | Vehicle Center High-Mounted Stoplamp (CHMSL) |
| 17 | Passenger Side Rear Parking Lamps |
| 18 | Locks |
| 19 | Liftgate Module/Driver Seat Module |
| 20 | Blank |
| 21 | Lock |

| Fuses | Usage |
|---|---|
| 23 | Blank |
| 24 | Unlock |
| 25 | Blank |
| 26 | Blank |
| 27 | OnStar® Overhead Battery, OnStar® System |
| 28 | Sunroof |
| 29 | Not Used |
| 30 | Parking Lamps |
| 31 | Truck Body Controller Accessory |
| 32 | Truck Body Controller 5 |
| 33 | Front Wipers |
| 34 | Vehicle Stop |
| 35 | Transmission Control Module |
| 36 | Heat Ventilation Air Conditioning B |
| 37 | Front Parking Lamps |

| Fuses | Usage |
|---|---|
| 38 | Driver Side Turn Signal |
| 39 | Heat Ventilation Air Conditioning 1 |
| 40 | Truck Body Controller 4 |
| 41 | Radio |
| 42 | Trailer Park |
| 43 | Passenger Side Turn Signal |
| 44 | Heat Ventilation Air Conditioning |
| 45 | Rear Fog Lamps |
| 46 | Auxiliary Power 1 |
| 47 | Ignition 0 |
| 48 | Four-Wheel Drive |
| 49 | Blank |
| 50 | Truck Body Controller Ignition |
| 51 | Brakes |
| 52 | Truck Body Controller Run |

# Capacities and Specifications

The following approximate capacities are given in English and metric conversions. See *Recommended Fluids and Lubricants on page 6-12* for more information.

| Application | Capacities | |
|---|---|---|
| | English | Metric |
| Air Conditioning Refrigerant R134a | For the air conditioning system refrigerant charge amount, see the refrigerant caution label located under the hood. See your dealer for more information. | |
| Cooling System | | |
| 4.2L L6 | 9.7 qt | 9.2 L |
| 5.3L V8 | 11.2 qt | 10.6 L |
| 6.0L V8 | 11.2 qt | 10.6 L |
| Engine Oil with Filter | | |
| 4.2L L6 | 7.0 qt | 6.6 L |
| 5.3L V8 | 6.0 qt | 5.7 L |
| 6.0L V8 | 6.0 qt | 5.7 L |

| Application | Capacities | |
|---|---|---|
| | English | Metric |
| Fuel Tank | 22.0 gal | 83.3 L |
| Transfer Case Lubricant | 2.0 qt | 1.8 L |
| Transmission Fluid (Drain and Refill) | 5.0 qt | 4.7 L |
| Wheel Nut Torque | 100 lb ft | 140 N•m |
| All capacities are approximate. When adding, be sure to fill to the approximate level, as recommended in this manual. Recheck the fluid level after filling. | | |

## Engine Specifications

| Engine | VIN Code | Transmission | Spark Plug Gap |
|---|---|---|---|
| 4.2L L6 Engine | S | Automatic | 0.040 in (1.01 mm) |
| 5.3L V8 Engine | M | Automatic | 0.040 in (1.01 mm) |
| 6.0L V8 Engine | H | Automatic | 0.040 in (1.01 mm) |

# Section 6 Maintenance Schedule

# Maintenance Schedule

## Introduction

**Important: Keep engine oil at the proper level and change as recommended.**

*Have you purchased the GM Protection Plan? The Plan supplements the vehicle warranties. See the Warranty and Owner Assistance booklet or your dealer/retailer for details.*

## Maintenance Requirements

***Notice:*** **Maintenance intervals, checks, inspections, replacement parts, and recommended fluids and lubricants as prescribed in this manual are necessary to keep this vehicle in good working condition. Any damage caused by failure to follow scheduled maintenance might not be covered by the vehicle warranty.**

## Your Vehicle and the Environment

Proper vehicle maintenance not only helps to keep the vehicle in good working condition, but also helps the environment. All recommended maintenance is important. Improper vehicle maintenance can even affect the quality of the air we breathe. Improper fluid levels or the wrong tire inflation can increase the level of emissions from the vehicle. To help protect the environment, and to keep the vehicle in good condition, be sure to maintain the vehicle properly.

## Using the Maintenance Schedule

We want to help keep this vehicle in good working condition. But we do not know exactly how you will drive it. You might drive very short distances only a few times a week. Or you might drive long distances all the time in very hot, dusty weather. You might use the vehicle in making deliveries. Or you might drive it to work, to do errands, or in many other ways.

Because of all the different ways people use their vehicles, maintenance needs vary. You might need more frequent checks and replacements. So please read the following and note how you drive. If you have any questions on how to keep the vehicle in good condition, see your dealer/retailer.

This schedule is for vehicles that:

- carry passengers and cargo within recommended limits on the Tire and Loading Information label. See *Loading the Vehicle on page 4-33*.
- are driven on reasonable road surfaces within legal driving limits.
- are driven off-road in the recommended manner. See *Off-Road Driving on page 4-14*.
- use the recommended fuel. See *Gasoline Octane on page 5-6*.

The services in *Scheduled Maintenance on page 6-4* should be performed when indicated. See *Additional Required Services on page 6-6* and *Maintenance Footnotes on page 6-7* for further information.

**⚠ CAUTION:**

Performing maintenance work on a vehicle can be dangerous. In trying to do some jobs, you can be seriously injured. Do your own maintenance work only if you have the required know-how and the proper tools and equipment for the job. If you have any doubt, see your dealer/retailer to have a qualified technician do the work. See *Doing Your Own Service Work on page 5-4*.

Some maintenance services can be complex. So, unless you are technically qualified and have the necessary equipment, have your dealer/retailer do these jobs.

When you go to your dealer/retailer for service, trained and supported service technicians will perform the work using genuine parts.

To purchase service information, see *Service Publications Ordering Information on page 7-16*.

*Owner Checks and Services on page 6-8* tells what should be checked, when to check it, and what can easily be done to help keep the vehicle in good condition.

The proper replacement parts, fluids, and lubricants to use are listed in *Recommended Fluids and Lubricants on page 6-12* and *Maintenance Replacement Parts on page 6-14*. When the vehicle is serviced, make sure these are used. All parts should be replaced and all necessary repairs done before you or anyone else drives the vehicle. We recommend the use of genuine parts from your dealer/retailer.

## Scheduled Maintenance

When the change engine oil light or CHANGE ENGINE OIL DIC message displays, service is required for the vehicle. See *Change Engine Oil Light on page 3-43* or *DIC Warnings and Messages on page 3-51*. Have the vehicle serviced as soon as possible within the next 600 miles (1 000 km). It is possible that, if driving under the best conditions, the engine oil life system may not indicate that vehicle service is necessary for over a year. However, the engine oil and filter must be changed at least once a year and at this time the system must be reset. Your dealer/retailer has trained service technicians who will perform this work using genuine parts and reset the system.

If the engine oil life system is ever reset accidentally, service the vehicle within 3,000 miles (5 000 km) since the last service. Remember to reset the oil life system whenever the oil is changed. See *Engine Oil Life System on page 5-22* for information on the Engine Oil Life System and resetting the system.

When the change engine oil light or CHANGE ENGINE OIL DIC message appears, certain services, checks, and inspections are required. Required services are described in the following for “Maintenance I” and “Maintenance II.” Generally, it is recommended that the first service be Maintenance I, the second service be Maintenance II, and then alternate Maintenance I and Maintenance II thereafter. However, in some cases, Maintenance II may be required more often.

**Maintenance I** — Use Maintenance I if the light or message displays within 10 months since the vehicle was purchased or Maintenance II was performed.

**Maintenance II** — Use Maintenance II if the previous service performed was Maintenance I. Always use Maintenance II whenever the light or message displays 10 months or more since the last service or if the light or message has not come on at all for one year.

## Scheduled Maintenance

| Service | Maintenance I | Maintenance II |
|---|---|---|
| Change engine oil and filter. See *Engine Oil on page 5-18*. Reset oil life system. See *Engine Oil Life System on page 5-22*. *An Emission Control Service.* | • | • |
| Visually check for any leaks or damage. *See footnote (j).* | • | • |
| Inspect engine air cleaner filter. If necessary, replace filter. See *Engine Air Cleaner/Filter on page 5-24*. *See footnote (k).* | | • |
| Rotate tires and check inflation pressures and wear. See *Tire Inspection and Rotation on page 5-73* and “Tire Wear Inspection” in *At Least Once a Month on page 6-9*. | • | • |
| Inspect brake system. *See footnote (a).* | • | • |
| Check engine coolant and windshield washer fluid levels and add fluid as needed. | • | • |
| Perform any needed additional services. See “Additional Required Services” in this section. | • | • |
| Inspect suspension and steering components. *See footnote (b).* | | • |
| Inspect engine cooling system. *See footnote (c).* | | • |
| Inspect wiper blades. *See footnote (d).* | | • |
| Inspect restraint system components. *See footnote (e).* | | • |
| Lubricate body components. *See footnote (f).* | | • |
| Check transmission fluid level and add fluid as needed. *See footnote (g).* | | • |

## Additional Required Services

The following services should be performed at the first maintenance service (I or II) after the indicated miles (kilometers) shown for each item.

**Additional Required Services**

| Service and Miles (Kilometers) | 25,000 (40 000) | 50,000 (80 000) | 75,000 (120 000) | 100,000 (160 000) | 125,000 (200 000) | 150,000 (240 000) |
|---|---|---|---|---|---|---|
| Inspect fuel system for damage or leaks. | • | • | • | • | • | • |
| Inspect exhaust system for loose or damaged components. | • | • | • | • | • | • |
| Replace engine air cleaner filter. See *Engine Air Cleaner/Filter on page 5-24*. | | • | | • | | • |
| Change automatic transmission fluid and filter (severe service). *See footnotes (g) and (h).* | | • | | • | | • |
| Change automatic transmission fluid and filter (normal service). *See footnote (g).* | | | | • | | |
| Automatic transfer case only: Change transfer case fluid. *See footnote (g).* | | • | | • | | • |
| Replace spark plugs. *An Emission Control Service.* | | | | • | | |
| V8 engine only: Inspect spark plug wires. *An Emission Control Service.* | | | | • | | |

**Additional Required Services (cont'd)**

| Service and Miles (Kilometers) | 25,000 (40 000) | 50,000 (80 000) | 75,000 (120 000) | 100,000 (160 000) | 125,000 (200 000) | 150,000 (240 000) |
|---|---|---|---|---|---|---|
| Engine cooling system service (or every five years, whichever occurs first). *An Emission Control Service. See footnote (i).* | | | | | | • |
| Inspect engine accessory drive belt. *An Emission Control Service. See footnote (l).* | | | | | | • |

## Maintenance Footnotes

(a) *Visually inspect brake lines and hoses for proper hook-up, binding, leaks, cracks, chafing, etc. Inspect disc brake pads for wear and rotors for surface condition. Inspect other brake parts, including calipers, parking brake, etc.*

(b) *Visually inspect front and rear suspension and steering system for damaged, loose, or missing parts or signs of wear. Inspect power steering lines and hoses for proper hook-up, binding, leaks, cracks, chafing, etc.*

(c) *Visually inspect hoses and have them replaced if they are cracked, swollen, or deteriorated. Inspect all pipes, fittings and clamps; replace with genuine parts as needed. To help ensure proper operation, a pressure test of the cooling system and pressure cap and cleaning the outside of the radiator and air conditioning condenser is recommended at least once a year.*

(d) *Inspect wiper blades for wear, cracking, or contamination. Clean the windshield and wiper blades, if contaminated. Replace wiper blades that are worn or damaged. See Windshield Wiper Blade Replacement on page 5-55 and Windshield, Backglass, and Wiper Blades on page 5-114 for more information.*

(e) *Make sure the safety belt reminder light and safety belt assemblies are working properly. Look for any other loose or damaged safety belt system parts. If you see anything that might keep a safety belt system from doing its job, have it repaired. Have any torn or frayed safety belts replaced. Also see Checking the Restraint Systems on page 1-70*.

(f) *Lubricate all key lock cylinders, hood latch assembly, secondary latch, pivots, spring anchor, release pawl, rear compartment hinges, outer liftgate handle pivot points, rear door detent link, roller mechanism, liftgate handle pivot points, latch bolt, fuel door hinge, cargo door hinge, locks, and folding seat hardware. More frequent lubrication may be required when exposed to a corrosive environment. Applying silicone grease on weatherstrips with a clean cloth will make them last longer, seal better, and not stick or squeak.*

(g) *Inspect hoses for cracks, chafing, leaks, kinks, and proper installation.*

(h) *Change automatic transmission fluid and filter if the vehicle is mainly driven under one or more of these conditions:*

- *In heavy city traffic where the outside temperature regularly reaches 90°F (32°C) or higher.*
- *In hilly or mountainous terrain.*
- *When doing frequent trailer towing.*
- *Uses such as found in taxi, police, or delivery service.*

(i) *Drain, flush, and refill cooling system. This service can be complex; you should have your dealer/retailer perform this service. See Engine Coolant on page 5-29 for what to use. Inspect hoses. Clean radiator, condenser, pressure cap, and filler neck. Pressure test the cooling system and pressure cap.*

(j) *A fluid loss in any vehicle system could indicate a problem. Have the system inspected and repaired and the fluid level checked. Add fluid if needed.*

(k) *If driving regularly under dusty conditions, inspect the filter at each engine oil change.*

(l) *Visually inspect belt for fraying, excessive cracks, or obvious damage. Replace belt if necessary.*

## Owner Checks and Services

These owner checks and services should be performed at the intervals specified to help ensure vehicle safety, dependability, and emission control performance. Your dealer/retailer can assist with these checks and services.

Be sure any necessary repairs are completed at once. Whenever any fluids or lubricants are added to the vehicle, make sure they are the proper ones, as shown in *Recommended Fluids and Lubricants on page 6-12*.

## At Each Fuel Fill

*It is important to perform these underhood checks at each fuel fill.*

### Engine Oil Level Check

***Notice:*** **It is important to check the engine oil regularly and keep it at the proper level. Failure to keep the engine oil at the proper level can cause damage to the engine not covered by the vehicle warranty.**

Check the engine oil level and add the proper oil if necessary. See *Engine Oil on page 5-18*.

### Engine Coolant Level Check

Check the engine coolant level and add DEX-COOL® coolant mixture if necessary. See *Engine Coolant on page 5-29*.

### Windshield Washer Fluid Level Check

Check the windshield washer fluid level in the windshield washer fluid reservoir and add the proper fluid if necessary.

## At Least Once a Month

### Tire Inflation Check

Inspect the vehicle's tires and make sure they are inflated to the correct pressures. Do not forget to check the spare tire, if the vehicle has one. See *Inflation - Tire Pressure on page 5-65*. If the vehicle has a spare tire, check to make sure it is stored securely. See *Changing a Flat Tire on page 5-93*.

### Tire Wear Inspection

Tire rotation may be required for high mileage highway drivers prior to the Engine Oil Life System service notification. Check the tires for wear and, if necessary, rotate the tires. See *Tire Inspection and Rotation on page 5-73*.

## At Least Once a Year

### Starter Switch Check

**⚠ CAUTION:**

When you are doing this inspection, the vehicle could move suddenly. If the vehicle moves, you or others could be injured.

1. Before starting this check, be sure there is enough room around the vehicle.
2. Firmly apply both the parking brake and the regular brake. See *Parking Brake on page 2-34*.

   Do not use the accelerator pedal, and be ready to turn off the engine immediately if it starts.
3. Try to start the engine in each gear. The vehicle should start only in P (Park) or N (Neutral). If the vehicle starts in any other position, contact your dealer/retailer for service.

### Automatic Transmission Shift Lock Control System Check

**⚠ CAUTION:**

When you are doing this inspection, the vehicle could move suddenly. If the vehicle moves, you or others could be injured.

1. Before starting this check, be sure there is enough room around the vehicle. It should be parked on a level surface.
2. Firmly apply the parking brake. See *Parking Brake on page 2-34*.

   Be ready to apply the regular brake immediately if the vehicle begins to move.
3. With the engine off, turn the ignition to ON/RUN, but do not start the engine. Without applying the regular brake, try to move the shift lever out of P (Park) with normal effort. If the shift lever moves out of P (Park), contact your dealer/retailer for service.

## Ignition Transmission Lock Check

While parked, and with the parking brake set, try to turn the ignition to LOCK/OFF in each shift lever position.

- The ignition should turn to LOCK/OFF only when the shift lever is in P (Park).
- The ignition key should come out only in LOCK/OFF.

Contact your dealer/retailer if service is required.

## Parking Brake and Automatic Transmission P (Park) Mechanism Check

> **⚠ CAUTION:**
>
> When you are doing this check, the vehicle could begin to move. You or others could be injured and property could be damaged. Make sure there is room in front of the vehicle in case it begins to roll. Be ready to apply the regular brake at once should the vehicle begin to move.

Park on a fairly steep hill, with the vehicle facing downhill. Keeping your foot on the regular brake, set the parking brake.

- To check the parking brake's holding ability: With the engine running and the transmission in N (Neutral), slowly remove foot pressure from the regular brake pedal. Do this until the vehicle is held by the parking brake only.
- To check the P (Park) mechanism's holding ability: With the engine running, shift to P (Park). Then release the parking brake followed by the regular brake.

Contact your dealer/retailer if service is required.

## Underbody Flushing Service

At least every spring, use plain water to flush any corrosive materials from the underbody. Take care to clean thoroughly any areas where mud and other debris can collect.

## Tire Sealant and Compressor Kit

If the vehicle has a Tire Sealant and Compressor Kit, check the sealant expiration date printed on the instruction label of the kit at least once a year. See your dealer/retailer for a replacement canister.

## Recommended Fluids and Lubricants

Fluids and lubricants identified below by name, part number, or specification can be obtained from your dealer/retailer.

| Usage | Fluid/Lubricant |
|---|---|
| Engine Oil (Except 6.0L V8 Engine) | Engine oil which meets GM Standard GM6094M and displays the American Petroleum Institute Certified for Gasoline Engines starburst symbol. To determine the proper viscosity for your vehicle's engine, see *Engine Oil on page 5-18*. |
| Engine Oil (6.0L V8 Engine Only) | The engine requires a special engine oil meeting GM Standard GM4718M. Oils meeting this standard can be identified as synthetic, and should also be identified with the American Petroleum Institute (API) Certified for Gasoline Engines starburst symbol. However, not all synthetic API oils with the starburst symbol will meet this GM standard. Look for and use only an oil that meets GM Standard GM4718M. For the proper viscosity, see *Engine Oil on page 5-18*. |
| Engine Coolant | 50/50 mixture of clean, drinkable water and use only DEX-COOL® Coolant. See *Engine Coolant on page 5-29*. |
| Hydraulic Brake System | Delco® Supreme 11 Brake Fluid or equivalent DOT-3 brake fluid. |
| Windshield Washer | Optikleen® Washer Solvent. |
| Parking Brake Cable Guides | Chassis Lubricant (GM Part No. U.S. 12377985, in Canada 88901242) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB. |
| Power Steering System | GM Power Steering Fluid (GM Part No. U.S. 89021184, in Canada 89021186). |
| Automatic Transmission | DEXRON®-VI Automatic Transmission Fluid. |
| Key Lock Cylinders | Multi-Purpose Lubricant, Superlube (GM Part No. U.S. 12346241, in Canada 10953474). |
| Chassis Lubrication | Chassis Lubricant (GM Part No. U.S. 12377985, in Canada 88901242) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB. |
| Front Axle | SAE 75W-90 Synthetic Axle Lubricant (GM Part No. U.S. 89021677, in Canada 89021678) meeting GM Specification 9986115. |

| Usage | Fluid/Lubricant |
|---|---|
| Rear Axle (Except SS Model) | SAE 75W-90 Synthetic Axle Lubricant (GM Part No. U.S. 89021677, in Canada 89021678) meeting GM Specification 9986115. |
| Rear Axle (SS Model) | SAE 75W-90 Synthetic Axle Lubricant (GM Part No. U.S. 89021677, in Canada 89021678) meeting GM Specification 9986115. With a complete drain and refill add 5.5 ounces (163 ml) of Limited-Slip Axle Lubricant Additive (GM Part No. U.S. 1052358, in Canada 992694) where required. See *Rear Axle on page 5-49*. |
| Transfer Case | AUTO-TRAK II Fluid (GM Part No. U.S. 12378508, in Canada 10953626). |
| Rear Driveline Center Spline and Universal Joints | Chassis Lubricant (GM Part No. U.S. 12377985, in Canada 88901242) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB. |
| Constant Velocity Universal Joint | Chassis Lubricant (GM Part No. U.S. 12377985, in Canada 88901242) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB. |

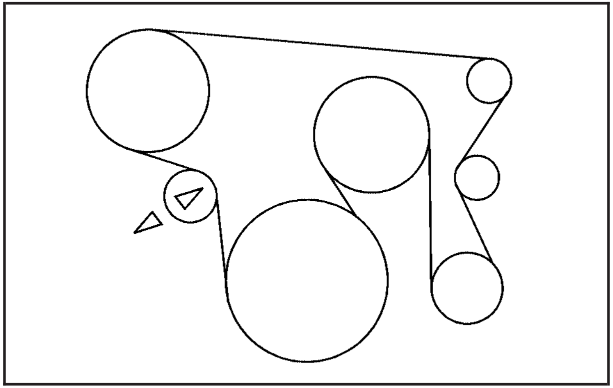
| Usage | Fluid/Lubricant |
|---|---|
| Hood Latch Assembly, Secondary Latch, Pivots, Spring Anchor, and Release Pawl | Lubriplate Lubricant Aerosol (GM Part No. U.S. 12346293, in Canada 992723) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB. |
| Hood and Door Hinges, Body Door Hinge Pins, Liftgate Hinge and Linkage, Folding Seats, and Fuel Door Hinge | Multi-Purpose Lubricant, Superlube (GM Part No. U.S. 12346241, in Canada 10953474). |
| Outer Tailgate Handle Pivot Points and Hinges | Multi-Purpose Lubricant, Superlube (GM Part No. U.S. 12346241, in Canada 10953474). |
| Weatherstrip Conditioning | Weatherstrip Lubricant (GM Part No. U.S. 3634770, in Canada 10953518) or Dielectric Silicone Grease (GM Part No. U.S. 12345579, in Canada 992887). |
| Weatherstrip Squeaks | Synthetic Grease with Teflon, Superlube (GM Part No. U.S. 12371287, in Canada 10953437). |

## Maintenance Replacement Parts

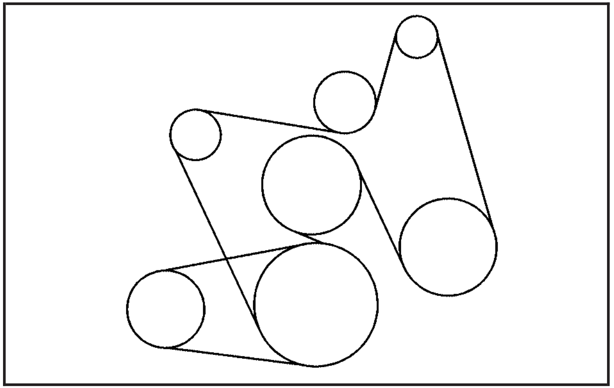
Replacement parts identified below by name, part number, or specification can be obtained from your dealer.

| Part | GM Part Number | ACDelco Part Number |
|---|---|---|
| Automatic Transmission Filter Kit | 24208576 | 24208576 |
| Engine Air Cleaner/Filter | 15036141 | A2014C |
| Engine Oil Filter | | |
| 4.2L L6 | 89017342 | PF61 |
| 5.3L V8; 6.0L V8 | 89017524 | PF48 |
| Spark Plugs | | |
| 4.2 L6 | 12598004 | 41-103 |
| 5.3L V8; 6.0L V8 | 12609877 | 41-985 |
| Wiper Blades | | |
| Front – 22 in (56 cm) | 12368668 | — |
| Rear – 16 in (41 cm) | 15232655 | — |

## Engine Drive Belt Routing



4.2L L6 Engine



5.3L V8 and 6.0L V8 Engines

# Maintenance Record

After the scheduled services are performed, record the date, odometer reading, who performed the service, and the type of services performed in the boxes provided. See *Maintenance Requirements on page 6-2*. Any additional information from *Owner Checks and Services on page 6-8* can be added on the following record pages. You should retain all maintenance receipts.

**Maintenance Record**

| Date | Odometer Reading | Serviced By | Maintenance I or Maintenance II | Services Performed |
|---|---|---|---|---|
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## Maintenance Record (cont'd)

| Date | Odometer Reading | Serviced By | Maintenance I or Maintenance II | Services Performed |
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## Maintenance Record (cont'd)

| Date | Odometer Reading | Serviced By | Maintenance I or Maintenance II | Services Performed |
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# Section 7 Customer Assistance Information

# Customer Assistance and Information

## Customer Satisfaction Procedure

Your satisfaction and goodwill are important to your dealer and to Chevrolet. Normally, any concerns with the sales transaction or the operation of the vehicle will be resolved by the dealer's sales or service departments. Sometimes, however, despite the best intentions of all concerned, misunderstandings can occur. If your concern has not been resolved to your satisfaction, the following steps should be taken:

**STEP ONE:** Discuss your concern with a member of dealership management. Normally, concerns can be quickly resolved at that level. If the matter has already been reviewed with the sales, service, or parts manager, contact the owner of the dealership or the general manager.

**STEP TWO:** If after contacting a member of dealership management, it appears your concern cannot be resolved by the dealership without further help, in the U.S., call the Chevrolet Customer Assistance Center at 1-800-222-1020. In Canada, call General Motors of Canada Customer Communication Centre at 1-800-263-3777 (English), or 1-800-263-7854 (French).

We encourage you to call the toll-free number in order to give your inquiry prompt attention. Have the following information available to give the Customer Assistance Representative:

- Vehicle Identification Number (VIN). This is available from the vehicle registration or title, or the plate at the top left of the instrument panel and visible through the windshield.
- Dealership name and location.
- Vehicle delivery date and present mileage.

When contacting Chevrolet, remember that your concern will likely be resolved at a dealer's facility. That is why we suggest following Step One first.

**STEP THREE — U.S. Owners:** Both General Motors and your dealer are committed to making sure you are completely satisfied with your new vehicle. However, if you continue to remain unsatisfied after following the procedure outlined in Steps One and Two, you can file with the Better Business Bureau (BBB) Auto Line Program to enforce your rights.

The BBB Auto Line Program is an out of court program administered by the Council of Better Business Bureaus to settle automotive disputes regarding vehicle repairs or the interpretation of the New Vehicle Limited Warranty. Although you may be required to resort to this informal dispute resolution program prior to filing a court action, use of the program is free of charge and your case will generally be heard within 40 days. If you do not agree with the decision given in your case, you may reject it and proceed with any other venue for relief available to you.

You may contact the BBB Auto Line Program using the toll-free telephone number or write them at the following address:

BBB Auto Line Program
Council of Better Business Bureaus, Inc.
4200 Wilson Boulevard
Suite 800
Arlington, VA 22203-1838

Telephone: 1-800-955-5100
dr.bbb.org/goauto

This program is available in all 50 states and the District of Columbia. Eligibility is limited by vehicle age, mileage, and other factors. General Motors reserves the right to change eligibility limitations and/or discontinue its participation in this program.

**STEP THREE — Canadian Owners:** In the event that you do not feel your concerns have been addressed after following the procedure outlined in Steps 1 and 2, General Motors of Canada Limited wants you to be aware of its participation in a no-charge Mediation/Arbitration Program. General Motors of Canada Limited has committed to binding arbitration of owner disputes involving factory-related vehicle service claims. The program provides for the review of the facts involved by an impartial third party arbiter, and may include an informal hearing before the arbiter. The program is designed so that the entire dispute settlement process, from the time you file your complaint to the final decision, should be completed in about 70 days. We believe our impartial program offers advantages over courts in most jurisdictions because it is informal, quick, and free of charge.

For further information concerning eligibility in the Canadian Motor Vehicle Arbitration Plan (CAMVAP), call toll-free 1-800-207-0685, or call the General Motors Customer Communication Centre, 1-800-263-3777 (English), 1-800-263-7854 (French), or write to:

The Mediation/Arbitration Program
c/o Customer Communication Centre
General Motors of Canada Limited
Mail Code: CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

Your inquiry should be accompanied by the Vehicle Identification Number (VIN).

# Online Owner Center

## Online Owner Center (U.S.) — www.gmownercenter.com/chevrolet

Information and services customized for your specific vehicle — all in one convenient place.

- Digital owner manual, warranty information, and more
- Online service and maintenance records
- Find Chevrolet dealers for service nationwide
- Exclusive privileges and offers
- Recall notices for your specific vehicle
- OnStar® and GM Cardmember Services Earnings summaries

## Other Helpful Links:

Chevrolet – www.chevrolet.com

Chevrolet Merchandise — www.chevymall.com

Help Center — www.chevrolet.com/helpcenter

- FAQ
- Contact Us

## My GM Canada (Canada) — www.gm.ca

My GM Canada is a password-protected section of www.gm.ca where you can save information on GM vehicles, get personalized offers, and use handy tools and forms with greater ease.

Here are a few of the valuable tools and services you will have access to:

- My Showroom: Find and save information on vehicles and current offers in your area.
- My Dealers/Retailers: Save details such as address and phone number for each of your preferred GM dealers/retailers.
- My Driveway: Access quick links to parts and service estimates, check trade-in values, or schedule a service appointment by adding the vehicles you own to your driveway profile.
- My Preferences: Manage your profile and use tools and forms with greater ease.

To sign up, visit the My GM Canada section within www.gm.ca.

## Customer Assistance for Text Telephone (TTY) Users

To assist customers who are deaf, hard of hearing, or speech-impaired and who use Text Telephones (TTYs), Chevrolet has TTY equipment available at its Customer Assistance Center. Any TTY user in the U.S. can communicate with Chevrolet by dialing: 1-800-833-CHEV (2438). (TTY users in Canada can dial 1-800-263-3830.)

## Customer Assistance Offices

Chevrolet encourages customers to call the toll-free number for assistance. However, if a customer wishes to write or e-mail Chevrolet, the letter should be addressed to:

### United States — Customer Assistance

Chevrolet Motor Division
Chevrolet Customer Assistance Center
P.O. Box 33170
Detroit, MI 48232-5170

Chevrolet.com
1-800-222-1020
1-800-833-2438 (For Text Telephone devices (TTYs))
Roadside Assistance: 1-800-CHEV-USA (243-8872)

From Puerto Rico:
1-800-496-9992 (English)
1-800-496-9993 (Spanish)

From U.S. Virgin Islands:
1-800-496-9994

### Canada — Customer Assistance

General Motors of Canada Limited
Customer Communication Centre, CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

gmcanada.com
1-800-263-3777 (English)
1-800-263-7854 (French)
1-800-263-3830 (For Text Telephone devices (TTYs))
Roadside Assistance: 1-800-268-6800

### Overseas — Customer Assistance

Please contact the local General Motors Business Unit.

### Mexico, Central America and Caribbean Islands/Countries (Except Puerto Rico and U.S. Virgin Islands) — Customer Assistance

General Motors de Mexico, S. de R.L. de C.V.
Customer Assistance Center
Paseo de la Reforma # 2740
Col. Lomas de Bezares
C.P. 11910, Mexico, D.F.
01-800-508-0000
Long Distance: 011-52-53 29 0 800

## GM Mobility Reimbursement Program

This program, available to qualified applicants, can reimburse you up to $1,000 of the cost of eligible aftermarket adaptive equipment required for your vehicle, such as hand controls or a wheelchair/scooter lift.

The offer is available for a very limited period of time from the date of vehicle purchase/lease. For more details, or to determine your vehicle's eligibility, visit gmmobility.com or call the GM Mobility Assistance Center at 1-800-323-9935. Text telephone (TTY) users, call 1-800-833-9935.

General Motors of Canada also has a Mobility Program. Call 1-800-GM-DRIVE (463-7483) for details. TTY users call 1-800-263-3830.

## Roadside Assistance Program

For U.S. purchased vehicles, call **1-800-CHEV-USA (1-800-243-8872); (Text telephone (TTY): 1-888-889-2438)**.

For Canadian purchased vehicles, call **1-800-268-6800**.

Service is available 24 hours a day, 365 days a year.

## Calling for Assistance

When calling Roadside Assistance, have the following information ready:

- Your name, home address, and home telephone number
- Telephone number of your location
- Location of the vehicle
- Model, year, color, and license plate number of the vehicle
- Odometer reading, Vehicle Identification Number (VIN), and delivery date of the vehicle
- Description of the problem

## Coverage

Services are provided up to 5 years/100,000 miles (160 000 km), whichever comes first.

In the U.S., anyone driving the vehicle is covered. In Canada, a person driving the vehicle without permission from the owner is not covered.

Roadside Assistance is not a part of the New Vehicle Limited Warranty. Chevrolet and General Motors of Canada Limited reserve the right to make any changes or discontinue the Roadside Assistance program at any time without notification.

Chevrolet and General Motors of Canada Limited reserve the right to limit services or payment to an owner or driver if they decide the claims are made too often, or the same type of claim is made many times.

## Services Provided

- **Emergency Fuel Delivery:** Delivery of enough fuel for the vehicle to get to the nearest service station.
- **Lock-Out Service:** Service is provided to unlock the vehicle if you are locked out. A remote unlock may be available if you have OnStar®. For security reasons, the driver must present identification before this service is given.
- **Emergency Tow From a Public Road or Highway:** Tow to the nearest Chevrolet dealer for warranty service, or if the vehicle was in a crash and cannot be driven. Assistance is also given when the vehicle is stuck in the sand, mud, or snow.
- **Flat Tire Change:** Service is provided to change a flat tire with the spare tire. The spare tire, if equipped, must be in good condition and properly inflated. It is the owner's responsibility for the repair or replacement of the tire if it is not covered by the warranty.
- **Battery Jump Start:** Service is provided to jump start a dead battery.
- **Trip Interruption Benefits and Assistance:** If your trip is interrupted due to a warranty failure, incidental expenses may be reimbursed during the 5 years/100,000 miles (160 000 km) Powertrain warranty period. Items considered are hotel, meals, and rental car.

## Services Not Included in Roadside Assistance

- Impound towing caused by violation of any laws.
- Legal fines.
- Mounting, dismounting or changing of snow tires, chains, or other traction devices.
- Towing or services for vehicles driven on a non-public road or highway.

## Services Specific to Canadian Purchased Vehicles

- **Fuel delivery:** Reimbursement is approximately $5 Canadian. Diesel fuel delivery may be restricted. Propane and other fuels are not provided through this service.
- **Lock-Out Service:** Vehicle registration is required.
- **Trip Routing Service:** Detailed maps of North America are provided when requested either with the most direct route or the most scenic route. There is a limit of six requests per year. Additional travel information is also available. Allow three weeks for delivery.
- **Trip Interruption Benefits and Assistance:** Must be over 250 kilometres from where your trip was started to qualify. General Motors of Canada Limited requires pre-authorization, original detailed receipts, and a copy of the repair orders. Once authorization has been received, the Roadside Assistance advisor will help you make arrangements and explain how to receive payment.
- **Alternative Service:** If assistance cannot be provided right away, the Roadside Assistance advisor may give you permission to get local emergency road service. You will receive payment, up to $100, after sending the original receipt to Roadside Assistance. Mechanical failures may be covered, however any cost for parts and labor for repairs not covered by the warranty are the owner responsibility.

## Scheduling Service Appointments

When your vehicle requires warranty service, contact your dealer/retailer and request an appointment. By scheduling a service appointment and advising your service consultant of your transportation needs, your dealer/retailer can help minimize your inconvenience.

If your vehicle cannot be scheduled into the service department immediately, keep driving it until it can be scheduled for service, unless, of course, the problem is safety-related. If it is, please call your dealership/retailer, let them know this, and ask for instructions.

If the dealer/retailer requests you to bring the vehicle for service, you are urged to do so as early in the work day as possible to allow for the same day repair.

## Courtesy Transportation

To enhance your ownership experience, we and our participating dealers are proud to offer Courtesy Transportation, a customer support program for vehicles with the Bumper to Bumper (Base Warranty Coverage period in Canada) and extended powertrain warranty in both the U.S. and Canada.

Several courtesy transportation options are available to assist in reducing your inconvenience when warranty repairs are required.

Courtesy Transportation is not a part of the New Vehicle Limited Warranty. A separate booklet entitled "Warranty and Owner Assistance Information" furnished with each new vehicle provides detailed warranty coverage information.

## Transportation Options

Warranty service can generally be completed while you wait. However, if you are unable to wait, GM helps to minimize your inconvenience by providing several transportation options. Depending on the circumstances, your dealer can offer you one of the following:

### Shuttle Service

Shuttle service is the preferred means of offering Courtesy Transportation. Dealers may provide you with shuttle service to get you to your destination with minimal interruption of your daily schedule. This includes one-way or round trip shuttle service within reasonable time and distance parameters of the dealer's area.

### Public Transportation or Fuel Reimbursement

If your vehicle requires overnight warranty repairs, and public transportation is used instead of the dealer's shuttle service, the expense must be supported by original receipts and can only be up to the maximum amount allowed by GM for shuttle service. In addition, for U.S. customers, should you arrange transportation through a friend or relative, limited reimbursement for reasonable fuel expenses may be available. Claim amounts should reflect actual costs and be supported by original receipts. See your dealer for information regarding the allowance amounts for reimbursement of fuel or other transportation costs.

### Courtesy Rental Vehicle

Your dealer may arrange to provide you with a courtesy rental vehicle or reimburse you for a rental vehicle that you obtain if your vehicle is kept for an overnight warranty repair. Rental reimbursement will be limited and must be supported by original receipts. This requires that you sign and complete a rental agreement and meet state/provincial, local, and rental vehicle provider requirements. Requirements vary and may include minimum age requirements, insurance coverage, credit card, etc. You are responsible for fuel usage charges and may also be responsible for taxes, levies, usage fees, excessive mileage, or rental usage beyond the completion of the repair.

It may not be possible to provide a like-vehicle as a courtesy rental.

## Additional Program Information

All program options, such as shuttle service, may not be available at every dealer. Please contact your dealer for specific information about availability. All Courtesy Transportation arrangements will be administered by appropriate dealer personnel.

*General Motors reserves the right to unilaterally modify, change or discontinue Courtesy Transportation at any time and to resolve all questions of claim eligibility pursuant to the terms and conditions described herein at its sole discretion.*

## Collision Damage Repair

If your vehicle is involved in a collision and it is damaged, have the damage repaired by a qualified technician using the proper equipment and quality replacement parts. Poorly performed collision repairs diminish your vehicle's resale value, and safety performance can be compromised in subsequent collisions.

## Collision Parts

Genuine GM Collision parts are new parts made with the same materials and construction methods as the parts with which your vehicle was originally built. Genuine GM Collision parts are your best choice to ensure that your vehicle's designed appearance, durability, and safety are preserved. The use of Genuine GM parts can help maintain your GM New Vehicle Warranty.

Recycled original equipment parts may also be used for repair. These parts are typically removed from vehicles that were total losses in prior crashes. In most cases, the parts being recycled are from undamaged sections of the vehicle. A recycled original equipment GM part, may be an acceptable choice to maintain your vehicle's originally designed appearance and safety performance, however, the history of these parts is not known. Such parts are not covered by your GM New Vehicle Limited Warranty, and any related failures are not covered by that warranty.

Aftermarket collision parts are also available. These are made by companies other than GM and may not have been tested for your vehicle. As a result, these parts may fit poorly, exhibit premature durability/corrosion problems, and may not perform properly in subsequent collisions. Aftermarket parts are not covered by your GM New Vehicle Limited Warranty, and any vehicle failure related to such parts are not covered by that warranty.

## Repair Facility

We recommend that you choose a collision repair facility that meets your needs before you ever need collision repairs. Your dealer/retailer may have a collision repair center with GM-trained technicians and state of the art equipment, or be able to recommend a collision repair center that has GM-trained technicians and comparable equipment.

## Insuring Your Vehicle

Protect your investment in your GM vehicle with comprehensive and collision insurance coverage. There are significant differences in the quality of coverage afforded by various insurance policy terms. Many insurance policies provide reduced protection to your GM vehicle by limiting compensation for damage repairs by using aftermarket collision parts. Some insurance companies will not specify aftermarket collision parts. When purchasing insurance, we recommend that you assure your vehicle will be repaired with GM original equipment collision parts. If such insurance coverage is not available from your current insurance carrier, consider switching to another insurance carrier.

If your vehicle is leased, the leasing company may require you to have insurance that assures repairs with Genuine GM Original Equipment Manufacturer (OEM) parts or Genuine Manufacturer replacement parts. Read your lease carefully, as you may be charged at the end of your lease for poor quality repairs.

## If a Crash Occurs

Here is what to do if you are involved in a crash.

- Check to make sure that you are all right. If you are uninjured, make sure that no one else in your vehicle, or the other vehicle, is injured.
- If there has been an injury, call emergency services for help. Do not leave the scene of a crash until all matters have been taken care of. Move your vehicle only if its position puts you in danger or you are instructed to move it by a police officer.
- Give only the necessary and requested information to police and other parties involved in the crash. Do not discuss your personal condition, mental frame of mind, or anything unrelated to the crash. This will help guard against post-crash legal action.
- If you need roadside assistance, call GM Roadside Assistance. See *Roadside Assistance Program on page 7-7* for more information.
- If your vehicle cannot be driven, know where the towing service will be taking it. Get a card from the tow truck operator or write down the driver's name, the service's name, and the phone number.
- Remove any valuables from your vehicle before it is towed away. Make sure this includes your insurance information and registration if you keep these items in your vehicle.
- Gather the important information you will need from the other driver. Things like name, address, phone number, driver's license number, vehicle license plate, vehicle make, model and model year, Vehicle Identification Number (VIN), insurance company and policy number, and a general description of the damage to the other vehicle.
- If possible, call your insurance company from the scene of the crash. They will walk you through the information they will need. If they ask for a police report, phone or go to the police department headquarters the next day and you can get a copy of the report for a nominal fee. In some states/provinces with "no fault" insurance laws, a report may not be necessary. This is especially true if there are no injuries and both vehicles are driveable.
- Choose a reputable collision repair facility for your vehicle. Whether you select a dealer/retailer or a private collision repair facility to fix the damage, make sure you are comfortable with them. Remember, you will have to feel comfortable with their work for a long time.
- Once you have an estimate, read it carefully and make sure you understand what work will be performed on your vehicle. If you have a question, ask for an explanation. Reputable shops welcome this opportunity.

### Managing the Vehicle Damage Repair Process

In the event that your vehicle requires damage repairs, GM recommends that you take an active role in its repair. If you have a pre-determined repair facility of choice, take your vehicle there, or have it towed there. Specify to the facility that any required replacement collision parts be original equipment parts, either new Genuine GM parts or recycled original GM parts. Remember, recycled parts will not be covered by your GM vehicle warranty.

Insurance pays the bill for the repair, but you must live with the repair. Depending on your policy limits, your insurance company may initially value the repair using aftermarket parts. Discuss this with your repair professional, and insist on Genuine GM parts. Remember if your vehicle is leased you may be obligated to have the vehicle repaired with Genuine GM parts, even if your insurance coverage does not pay the full cost.

If another party's insurance company is paying for the repairs, you are not obligated to accept a repair valuation based on that insurance company's collision policy repair limits, as you have no contractual limits with that company. In such cases, you can have control of the repair and parts choices as long as cost stays within reasonable limits.

# Reporting Safety Defects

## Reporting Safety Defects to the United States Government

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying General Motors.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer/retailer, or General Motors.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to safercar.gov; or write to:

Administrator, NHTSA
1200 New Jersey Avenue, S.E.
Washington D.C., 20590

You can also obtain other information about motor vehicle safety from safercar.gov.

# Reporting Safety Defects to the Canadian Government

If you live in Canada, and you believe that your vehicle has a safety defect, notify Transport Canada immediately, in addition to notifying General Motors of Canada Limited. Call them at 1-800-333-0510 or write to:

Transport Canada
Road Safety Branch
2780 Sheffield Road
Ottawa, Ontario K1B 3V9

# Reporting Safety Defects to General Motors

In addition to notifying NHTSA (or Transport Canada) in a situation like this, please notify General Motors.

Call 1-800-222-1020, or write:

Chevrolet Motor Division
Chevrolet Customer Assistance Center
P.O. Box 33170
Detroit, MI 48232-5170

In Canada, call 1-800-263-3777 (English) or 1-800-263-7854 (French), or write:

General Motors of Canada Limited
Customer Communication Centre, CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

# Service Publications Ordering Information

## Service Manuals

Service Manuals have the diagnosis and repair information on engines, transmission, axle suspension, brakes, electrical, steering, body, etc.

## Service Bulletins

Service Bulletins give additional technical service information needed to knowledgeably service General Motors cars and trucks. Each bulletin contains instructions to assist in the diagnosis and service of your vehicle.

## Owner Information

Owner publications are written specifically for owners and intended to provide basic operational information about the vehicle. The owner manual includes the Maintenance Schedule for all models.

In-Portfolio: Includes a Portfolio, Owner Manual, and Warranty Booklet.

RETAIL SELL PRICE: $35.00 (U.S.) plus processing fee

Without Portfolio: Owner Manual only.

RETAIL SELL PRICE: $25.00 (U.S.) plus processing fee

## Current and Past Model Order Forms

Technical Service Bulletins and Manuals are available for current and past model GM vehicles. To request an order form, specify year and model name of the vehicle.

### ORDER TOLL FREE: 1-800-551-4123 Monday-Friday 8:00 AM - 6:00 PM Eastern Time

For Credit Card Orders Only (VISA-MasterCard-Discover), visit Helm, Inc. on the World Wide Web at: helminc.com

Or you can write to:

Helm, Incorporated
P.O. Box 07130
Detroit, MI 48207

Prices are subject to change without notice and without incurring obligation. Allow ample time for delivery.

Note to Canadian Customers: All listed prices are quoted in U.S. funds. Canadian residents are to make checks payable in U.S. funds.

# Vehicle Data Recording and Privacy

Your GM vehicle has a number of sophisticated computers that record information about the vehicle's performance and how it is driven. For example, your vehicle uses computer modules to monitor and control engine and transmission performance, to monitor the conditions for airbag deployment and deploy airbags in a crash and, if so equipped, to provide antilock braking to help the driver control the vehicle. These modules may store data to help your dealer/retailer technician service your vehicle. Some modules may also store data about how you operate the vehicle, such as rate of fuel consumption or average speed. These modules may also retain the owner's personal preferences, such as radio pre-sets, seat positions, and temperature settings.

## Event Data Recorders

This vehicle has an Event Data Recorder (EDR). The main purpose of an EDR is to record, in certain crash or near crash-like situations, such as an airbag deployment or hitting a road obstacle, data that will assist in understanding how a vehicle's systems performed. The EDR is designed to record data related to vehicle dynamics and safety systems for a short period of time, typically 30 seconds or less. The EDR in this vehicle is designed to record such data as:

- How various systems in your vehicle were operating
- Whether or not the driver and passenger safety belts were buckled/fastened
- How far, if at all, the driver was pressing the accelerator and/or brake pedal
- How fast the vehicle was traveling

This data can help provide a better understanding of the circumstances in which crashes and injuries occur.

***Important:*** EDR data is recorded by your vehicle only if a non-trivial crash situation occurs; no data is recorded by the EDR under normal driving conditions and no personal data (e.g., name, gender, age, and crash location) is recorded. However, other parties, such as law enforcement, could combine the EDR data with the type of personally identifying data routinely acquired during a crash investigation.

To read data recorded by an EDR, special equipment is required, and access to the vehicle or the EDR is needed. In addition to the vehicle manufacturer, other parties, such as law enforcement, that have the special equipment, can read the information if they have access to the vehicle or the EDR.

GM will not access this data or share it with others except: with the consent of the vehicle owner or, if the vehicle is leased, with the consent of the lessee; in response to an official request of police or similar government office; as part of GM's defense of litigation through the discovery process; or, as required by law. Data that GM collects or receives may also be used for GM research needs or may be made available to others for research purposes, where a need is shown and the data is not tied to a specific vehicle or vehicle owner.

## OnStar®

If your vehicle has OnStar and you subscribe to the OnStar services, please refer to the OnStar Terms and Conditions for information on data collection and use. See also *OnStar® System on page 2-45* in this manual for more information.

## Navigation System

If your vehicle has a navigation system, use of the system may result in the storage of destinations, addresses, telephone numbers, and other trip information. Refer to the navigation system operating manual for information on stored data and for deletion instructions.

## Radio Frequency Identification (RFID)

RFID technology is used in some vehicles for functions such as tire pressure monitoring and ignition system security, as well as in connection with conveniences such as key fobs for remote door locking/unlocking and starting, and in-vehicle transmitters for garage door openers. RFID technology in GM vehicles does not use or record personal information or link with any other GM system containing personal information.

✍ **NOTES**

# A

## B



## C

## D

# E



# F

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# H

# I



# J



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